

Mohamed, A.
09/510937

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FILE 'REGISTRY' ENTERED AT 14:52:28 ON 09 JUN 2000
E POLYTETRAFLUOROETHYLENE/CN

L1 1 S E3

FILE 'CAPLUS' ENTERED AT 14:52:49 ON 09 JUN 2000

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON POLYTETRAFLUOROETHYLENE
/CN

L2 35980 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR PTFE OR POLYTETRAFL
UOROETHYLENE OR POLY(W) (TETRAFLUOROETHYLENE OR TETRA(W) (F
LUOROETHYLENE OR FLUORO ETHYLENE) OR TETRAFLUORO
ETHYLENE) OR POLYTETRA(W) (FLUOROETHYLENE OR FLUORO
ETHYLENE) OR POLYTETRAFLUORO ETHYLENE

L21 4109 SEA FILE=CAPLUS ABB=ON PLU=ON L2 AND (POROUS? OR
POROSITY)

L22 353 SEA FILE=CAPLUS ABB=ON PLU=ON L21 AND (CATHETER OR
TUBE OR TUBING OR TUBULAR OR BALLOON OR PIPE OR PIPING)

L23 16 SEA FILE=CAPLUS ABB=ON PLU=ON L22 AND FIBRIL

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON POLYTETRAFLUOROETHYLENE
/CN

L2 35980 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR PTFE OR POLYTETRAFL
UOROETHYLENE OR POLY(W) (TETRAFLUOROETHYLENE OR TETRA(W) (F
LUOROETHYLENE OR FLUORO ETHYLENE) OR TETRAFLUORO
ETHYLENE) OR POLYTETRA(W) (FLUOROETHYLENE OR FLUORO
ETHYLENE) OR POLYTETRAFLUORO ETHYLENE

L21 4109 SEA FILE=CAPLUS ABB=ON PLU=ON L2 AND (POROUS? OR
POROSITY)

L22 353 SEA FILE=CAPLUS ABB=ON PLU=ON L21 AND (CATHETER OR
TUBE OR TUBING OR TUBULAR OR BALLOON OR PIPE OR PIPING)

L24 4 SEA FILE=CAPLUS ABB=ON PLU=ON L22 AND THIN WALL?

L1 1 SEA FILE=REGISTRY ABB=ON PLU=ON POLYTETRAFLUOROETHYLENE
/CN

L2 35980 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR PTFE OR POLYTETRAFL
UOROETHYLENE OR POLY(W) (TETRAFLUOROETHYLENE OR TETRA(W) (F
LUOROETHYLENE OR FLUORO ETHYLENE) OR TETRAFLUORO
ETHYLENE) OR POLYTETRA(W) (FLUOROETHYLENE OR FLUORO
ETHYLENE) OR POLYTETRAFLUORO ETHYLENE

L21 4109 SEA FILE=CAPLUS ABB=ON PLU=ON L2 AND (POROUS? OR
POROSITY)

L22 353 SEA FILE=CAPLUS ABB=ON PLU=ON L21 AND (CATHETER OR
TUBE OR TUBING OR TUBULAR OR BALLOON OR PIPE OR PIPING)

L25 24 SEA FILE=CAPLUS ABB=ON PLU=ON L22 AND (THICK? (S) (MM OR
MILLIMET? OR MILLI(W) (METER OR METR?)))

L26 6 SEA FILE=CAPLUS ABB=ON PLU=ON L25 AND LAYER?

Searcher : Shears 308-4994

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L27 21 L23 OR L24 OR L26

=> d 1-21 .bevstr

L27 ANSWER 1 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:123173 CAPLUS
DOCUMENT NUMBER: 132:153082
TITLE: Thin-wall
polytetrafluoroethylene tube
INVENTOR(S): Campbell, Carey V.; Goffena, Donald G. M.;
Lewis, James D.; Myers, David J.; Sparling,
Clayton M.
PATENT ASSIGNEE(S): W. L. Gore & Associates, Inc., USA
SOURCE: U.S., 21 pp., Cont.-in-part of U.S. Ser. No.
204,708.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|----------|
| US 6027779 | A | 20000222 | US 1994-247960 | 19940524 |
| US 6025044 | A | 20000215 | US 1994-204708 | 19940302 |
| JP 09501759 | T2 | 19970218 | JP 1994-507204 | 19940818 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 1993-108963 ✓ | 19930818 |
| | | | US 1994-204708 ✓ | 19940302 |
| | | | US 1994-247960 ✓ | 19940524 |
| | | | WO 1994-US9449 | 19940818 |

AB A thin-wall PTFE (polytetrafluoroethylene) tube in the form of a tube of porous expanded PTFE film wherein the porous PTFE film has a microstructure contg. a multiplicity of fibrils oriented substantially parallel to each other. The tube has a wall thickness of less than about 0.25 mm and is made from at least one first layer and at least one second layer of porous PTFE film, wherein the fibrils of the first and second layers are oriented substantially perpendicular to each other. Preferably the fibrils of the at least one first layer are oriented substantially parallel to the longitudinal axis of the tube and the fibrils of the at least one second layer of porous PTFE film are oriented substantially circumferential to the tube. The first and second layers may be inner and outer layers resp., or alternatively their relationship may be reversed. Alternatively, either of the first and second film layers

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may be replaced with alternative reinforcing components such as a braid or at least one reinforcing rib. The reinforcing rib is preferably in the form of a helically-wrapped metal wire located between the first and second layers.

IT 9002-84-0, Polytetrafluoroethylene

RL: DEV (Device component use); USES (Uses)
(expanded; thin-wall
polytetrafluoroethylene tube)

REFERENCE COUNT: 68

REFERENCE(S):
(5) Anon; JP 60172306 1985 CAPLUS
(17) Balko, A; J of Surg Research 1986, V40,
P305 MEDLINE
(22) Chuter, T; J of Vas Surg 1993, V18(2), P185
MEDLINE
(24) Cragg, A; Radiology 1993, V187(3), P643
MEDLINE
(34) Kato; US 4478898 1984 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 2 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 2000:113022 CAPLUS

DOCUMENT NUMBER: 132:138616

TITLE: Thin-wall

polytetrafluoroethylene tube

INVENTOR(S): Campbell, Carey V.; Lewis, James D.; Myers,
David J.

PATENT ASSIGNEE(S): W. L. Gore & Associates, Inc., USA

SOURCE: U.S., 18 pp., Cont.-in-part of U.S. Ser. No.
108,963.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| US 6025044 | A | 20000215 | US 1994-204708 | 19940302 |
| US 6027779 | A | 20000222 | US 1994-247960 | 19940524 |
| JP 09501759 | T2 | 19970218 | JP 1994-507204 | 19940818 |
| US 6027811 | A | 20000222 | US 1995-486124 | 19950607 |
| PRIORITY APPLN. INFO.: | | | | |
| | | | US 1993-108963 | 19930818 |
| | | | US 1994-204708 | 19940302 |
| | | | US 1994-247960 | 19940524 |
| | | | WO 1994-US9449 | 19940818 |

AB In a thin-wall PTFE tube in
the form of a tube of porous expanded
PTFE film, the porous PTFE film has a
microstructure contg. a multiplicity of fibrils oriented
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substantially parallel to each other. The tube has a wall thickness of less than about 0.25 mm and is made from at least one first layer and at least one second layer of porous PTFE film, wherein the fibrils of the first and second layers are oriented substantially perpendicular to each other. Preferably the fibrils of the at least one first layer are oriented substantially parallel to the longitudinal axis of the tube and the fibrils of the at least one second layer of porous PTFE film are oriented substantially circumferential to the tube. The first and second layers may be inner and outer layers resp., or alternatively their relationship may be reversed. Alternatively, either of the first and second film layers may be replaced with alternative reinforcing components such as a braid or at least one reinforcing rib.

IT 9002-84-0, Polytetrafluoroethylene

RL: TEM (Technical or engineered material use); USES (Uses)
(porous expanded film; thin-wall
polytetrafluoroethylene tube)

REFERENCE COUNT: 70

REFERENCE(S):
(5) Anon; JP 60172306 1985 CAPLUS
(18) Balko, A; J of Surg Research 1986, V40,
P305 MEDLINE
(25) Cragg, A; Percutaneous Femoropopliteal
Graft Placement Radiology 1993, V187(3),
P643 MEDLINE
(29) George, P; Lancet 1990, V335, P582 MEDLINE
(34) Kato; US 4478898 1984 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 3 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:495445 CAPLUS

DOCUMENT NUMBER: 131:131036

TITLE: Expanded PTFE-containing flocked
articles

INVENTOR(S): Norvell, Jean; Wagner, Philip L.

PATENT ASSIGNEE(S): Gore Enterprise Holdings, Inc., USA

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| WO 9939038 | A1 | 19990805 | WO 1998-US27038 | 19981218 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, | | | | |
| Searcher : Shears 308-4994 | | | | |

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DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP,
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
TT, UA, UG, UZ, VN, YU, ZW

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE

AU 9918325 A1 19990816 AU 1999-18325 19981218

PRIORITY APPLN. INFO.: US 1998-15616 19980129
WO 1998-US27038 19981218

AB Flocked articles are disclosed which include as at least one component of the article a water resistant, wind resistant, breathable portion. The water resistant, wind resistant, breathable portion may be a membrane, layered structure or composite which is either **porous** or nonporous, which can also be air permeable or air impermeable, hydrophilic, hydrophobic and/or oleophobic. In a particularly preferred embodiment of the present invention, at least a portion of the article comprises an expanded **PTFE** [i.e., microporous structure of microscopic polymer **fibrils** interconnecting polymer nodes (particles) from which the **fibrils** emerge]. The flocked surface of the articles has abrasion-to-leakage value of .gtoreq.50 wear cycles. The flocked article may have any desired shape, such as a flexible sheet, a fabric, a fiber, a flexible or rigid three-dimensional shape, a **tube**, or the like. Moreover the configuration of the article may be either simple or complex, ranging from a single sheet to a layered structure to a multilayered, multicompositional form. A typical article comprised an expanded **PTFE** membrane, coated with a pressure-sensitive adhesive, and flocked with nylon flocking.

IT 9002-84-0

RL: TEM (Technical or engineered material use); USES (Uses)
(water-resistant, breathable, wind-resistant expanded
PTFE-contg. flocked articles)

REFERENCE COUNT: 6

REFERENCE(S):
(1) Endrenyi, F; US 3616136 A 1971 CAPLUS
(2) Gore & Ass; EP 0288214 A 1988
(3) Gore & Ass; WO 9734507 A 1997
(4) Kanebo Ltd; JP 63028984 A 1988
(5) Malden Mills Ind Inc; EP 0445394 A 1991

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 4 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1998:685158 CAPLUS

DOCUMENT NUMBER: 129:331854

TITLE: Dust-free and chemical-resistant ring-shaped seals and their manufacture from monoaxially oriented **porous PTFE**

INVENTOR(S): Kuno, Hirokazu; Miura, Masyuki

PATENT ASSIGNEE(S): Japan Gore Tex Inc., Japan

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SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 10281291 | A2 | 19981023 | JP 1997-83017 | 19970401 |

AB Title seals show a **fibril** orientation in the thickness direction and are manufd. (a) by inserting cores into monoaxially oriented porous PTFE (A)-made tubes, cutting the tube at regular intervals, and removal of the cores, (b) by improving rigidity of A tubes and cutting the tube at regular intervals, or (c) by cutting A-made rods into sheets at regular intervals and punching the sheets. Thus, 85 parts PTFE was blended with 15 parts solvent naphtha, extrusion molded, heated to remove the naphtha, drawn in the lengthwise direction of the cylinder and hot fixed to give a tube, which was wound with craft tape, sliced, and sepd. from the tapes to give a ring-type seal showing good sealability and dimension stability under high pressure.

IT 9002-84-0, Polytetrafluoroethylene

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of dust-free ring seals from monoaxially oriented porous PTFE)

L27 ANSWER 5 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1997:402453 CAPLUS

DOCUMENT NUMBER: 127:35630

TITLE: Flexible tubes having porous polytetrafluoroethylene layers and their manufacture

INVENTOR(S): Oga, Takahiro

PATENT ASSIGNEE(S): Japan Gore Tex Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 PP.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09123302 | A2 | 19970513 | JP 1995-306738 | 19951031 |

AB Title tubes have structures obtained by laminating porous polytetrafluoroethylene (PTFE)

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layers on the outside surfaces of thermoplastic resin tubes, which are obtained by melt-extruding thermoplastic resins and have thickness $\leq 100 \mu\text{m}$. The tubes are manufd. by putting core materials into inside of the tubes, laminating the PTFE layers on the outside surfaces of the tubes, and pulling out the core materials from the tubes. Thus, hexafluoropropylene-tetrafluoroethylene copolymer was extruded with putting Ag-plated soft Cu wire into the tube, laminated with unbaked biaxially oriented porous PTFE film (showing thickness 25 μm , porosity 80%, and pore diam. 0.2 μm), adhered by heating, and the wire was pulled out to give a tube showing water resistance 25 kg/cm² and bending property (max. diam. up to generate kink) 3.6 mm.

IT 9002-84-0, Polytetrafluoroethylene

RL: PRP (Properties); TEM (Technical or engineered material use);

USES (Uses)

(flexible thermoplastic tubes having porous polytetrafluoroethylene layers)

L27 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1996:345388 CAPLUS

DOCUMENT NUMBER: 125:12937

TITLE: Flexible kinking-resistant multilayer plastic tubes with improved resistance to heat and chemicals and soiling

INVENTOR(S): Shinmen, Hiroshi; Ishii, Junji; Arai, Keiichi; Nakajima, Toshuki

PATENT ASSIGNEE(S): Japan Gore Tex Inc, Japan; Olympus Optical Co

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 08072178 | A2 | 19960319 | JP 1994-232124 | 19940901 |

AB The tubes consist of a solid inner layer comprising PTFE, a porous middle layer comprising PTFE, and an air-permeable layer comprising polymers (e.g., natural or synthetic rubber) having elasticity greater than that of the middle layer and exhibiting Gurley air permeation no. $\geq 100,000 \text{ s}$, and an outer layer comprising porous PTFE and optionally contain a thermoplastic adhesive layer. PTFE film was wound around a pipe, covered with porous PTFE film by winding the film around the

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pipe, heat treated 10 min at 360.degree., coated with fluoro rubber to coating thickness 30 .mu.m, dried, and covered with porous PTFE film to give a multilayer tube with Gurley no. 8000-10,000 s and radius of curvature 10 mm and good resistance to kinking, soiling, and oily magic inks.

IT 9002-84-0, PTFE

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(laminates with fluoropolymers; for flexible kinking-resistant multilayer plastic tubes with improved resistance to heat and chems. and soiling)

L27 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1995:490085 CAPLUS

DOCUMENT NUMBER: 122:222958

TITLE: A thin-wall, seamless,
porous polytetrafluoroethylene

medical tube

INVENTOR(S): House, Wayne D.; Moll, Kenneth W.; Zukowski, Stanislaw L.

PATENT ASSIGNEE(S): W. L. gore and Associates, Inc., USA

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------|
| WO 9505277 | A1 | 19950223 | WO 1994-US4917 | 19940504 |
| W: | AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN | | | |
| RW: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | |
| CA 2167943 | AA | 19950223 | CA 1994-2167943 | 19940504 |
| AU 9469437 | A1 | 19950314 | AU 1994-69437 | 19940504 |
| EP 714345 | A1 | 19960605 | EP 1994-917911 | 19940504 |
| R: | DE, FR, GB, IT, SE | | | |
| JP 09501585 | T2 | 19970218 | JP 1994-506928 | 19940504 |
| PRIORITY APPLN. INFO.: | | | US 1993-108960 | 19930818 |
| | | | WO 1994-US4917 | 19940504 |

AB A seamless tube of porous polytetrafluoroethylene having a microstructure of nodes interconnected by fibrils and having a wall thickness of less than about 0.20 mm is claimed. The tube would be useful in certain vascular graft applications wherein the

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tube may serve as a replacement for segments of blood vessels. GORE-TEX surgical membrane was used in prepn. of thin-wall medical tubes.

IT 9002-84-0, Ptfe

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thin-wall, seamless, porous
polytetrafluoroethylene medical tubes)

L27 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1994:559143 CAPLUS

DOCUMENT NUMBER: 121:159143

TITLE: Rapidly recoverable
polytetrafluoroethylene and process
therefore

INVENTOR(S): House, Wayne D.; Myers, David J.

PATENT ASSIGNEE(S): W. L. Gore and Associates, Inc., USA

SOURCE: U.S., 12 pp. Cont.-in-part of U.S. 4,877,661.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| US 5308664 | A | 19940503 | US 1988-248887 | 19880923 |
| US 4877661 | A | 19891031 | US 1987-110145 | 19871019 |
| AU 8822922 | A1 | 19890420 | AU 1988-22922 | 19880929 |
| AU 626149 | B2 | 19920723 | | |
| EP 313263 | A2 | 19890426 | EP 1988-309542 | 19881012 |
| EP 313263 | A3 | 19891018 | | |
| EP 313263 | B1 | 19930324 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| GB 2211190 | A1 | 19890628 | GB 1988-23934 | 19881012 |
| AT 87259 | E | 19930415 | AT 1988-309542 | 19881012 |
| NO 8804629 | A | 19890420 | NO 1988-4629 | 19881018 |
| JP 02000645 | A2 | 19900105 | JP 1988-260731 | 19881018 |
| JP 2547243 | B2 | 19961023 | | |
| CA 1318093 | A1 | 19930525 | CA 1988-580425 | 19881018 |
| DK 8805817 | A | 19890420 | DK 1988-5817 | 19881019 |
| FI 8804830 | A | 19890420 | FI 1988-4830 | 19881019 |
| PRIORITY APPLN. INFO.: | | | US 1987-110145 | 19871019 |
| | | | US 1988-248887 | 19880923 |
| | | | EP 1988-309542 | 19881012 |

AB The microstructure of the porous PTFE material consists of nodes interconnected by fibrils, substantially all of the fibrils having a bent or wavy appearance and are suitable for use in the medical field, filtration, and fabric applications, etc. (no data). Thus, a blend of 1 lb powd.

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PTFE and 150 cm³ Isopar M was extruded, dried 30 min at 250.degree. in a forced convection air oven, expanded 2.3:1, and heat treated 90 s at 393.degree. to give a 10-mm-diam. tube having rapid recovery 22.3%.

IT 9002-84-0P, PTFE
(tubes, prepн. of, porous, rapidly recoverable)

L27 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1994:411233 CAPLUS
DOCUMENT NUMBER: 121:11233
TITLE: Porous polytetrafluoroethylene
material and process for producing the same
INVENTOR(S): Yamamoto, Katsutoshi; Tanaka, Osamu; Onogi, Hirofumi
PATENT ASSIGNEE(S): Daikin Industries Ltd., Japan
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| WO 9403531 | A1 | 19940217 | WO 1993-JP1051 | 19930727 |
| W: JP, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| EP 613921 | A1 | 19940907 | EP 1993-916228 | 19930727 |
| EP 613921 | B1 | 19991117 | | |
| R: DE, FR, GB | | | | |
| US 5688836 | A | 19971118 | US 1994-211056 | 19940325 |
| PRIORITY APPLN. INFO.: | | | JP 1992-203552 | 19920730 |
| | | | WO 1993-JP1051 | 19930727 |

AB A porous PTFE-based material, esp., useful for medical goods and having improved in bond-ability and free from the problem of the buckling resistance on bending and tearing in the axial direction of tubes, comprises a fibril part mainly comprising PTFE and a node part comprising a heat-meltable resin with a m.p. lower than that of PTFE. The process comprises subjecting powdery paste extrusion material comprising particles of PTFE emulsion and the heat-meltable resin to paste extrusion molding, optionally followed by rolling, to give an unsintered material, stretching the same at a temp. lower than the m.p. of the meltable resin, and heat setting the stretched material at a temp. above the m.p. of PTFE. Extruding a product from an emulsion mixt. of 1:1 PTFE (m.p. 345.degree.) and a tetrafluoroethylene-perfluoroalkylvinyl

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ether copolymer (m.p. 310.degree.) contg. 23 phr Isopar E and heating at 150.degree. to give a tube, which was stretched at 500%/s and at 300.degree. and heat set for 5 min at 350.degree. gave a samples showing porosity .apprx.85%.

IT 9002-84-0, PTFE
(meltable resin emulsion blends, for porous and bondable medical tubes)

L27 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1993:497432 CAPLUS
DOCUMENT NUMBER: 119:97432
TITLE: Manufacture of perfluoroether-treated porous polytetrafluoroethylene products

INVENTOR(S): Chung, Hoo Young
PATENT ASSIGNEE(S): Donaldson Co., Inc., USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| WO 9221715 | A1 | 19921210 | WO 1992-US3045 | 19920414 |
| W: AU, BR, CA, JP | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE | | | | |
| CA 2108278 | AA | 19921205 | CA 1992-2108278 | 19920414 |
| AU 9216667 | A1 | 19930108 | AU 1992-16667 | 19920414 |
| AU 668087 | B2 | 19960426 | | |
| EP 587588 | A1 | 19940323 | EP 1992-909581 | 19920414 |
| EP 587588 | B1 | 19980708 | | |
| R: DE, FR, GB, IT, SE | | | | |
| BR 9205929 | A | 19940927 | BR 1992-5929 | 19920414 |
| JP 07501347 | T2 | 19950209 | JP 1992-508874 | 19920414 |
| ZA 9203268 | A | 19931108 | ZA 1992-3268 | 19920506 |
| US 5869156 | A | 19990209 | US 1997-852045 | 19970506 |
| US 5972449 | A | 19991026 | US 1999-246594 | 19990208 |
| PRIORITY APPLN. INFO.: | | | US 1991-710501 | 19910604 |
| | | | WO 1992-US3045 | 19920414 |
| | | | US 1994-289172 | 19940810 |
| | | | US 1997-852045 | 19970506 |

AB The title products (films, tubes, etc.), useful as waterproof wettable fabrics, air or liq. filters, liq./liq. sepn. membranes, vascular grafts, mech. seals, etc., comprise a matrix of PTFE treated by a fluorinated org. polymer fluid, e.g., a poly(perfluoropropylene oxide). The microstructure of treated PTFE is characterized by nodes interconnected with

Searcher : Shears 308-4994

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fibrils. Thus, a blend of 6.7 kg Fluon CD 123 and a premix of 1.4 kg kerosene and 0.14 kg Fomblin Y 120 (a liq. perfluoroether) was pressed into plugs, ram-extruded into a sheet, calendered to a 3-mil film, stripped of kerosene, and transversely stretched approx. 2000% at a temp. below the m.p. of PTFE to give the title product having filtration efficiency (DOP aerosol test) 99.9985.

IT 9002-84-0P, **Polytetrafluoroethylene**
(porous, liq. perfluoroether-treated, manuf. of)

L27 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1993:410050 CAPLUS
DOCUMENT NUMBER: 119:10050
TITLE: Manufacture of surface-modified porous expanded polytetrafluoroethylene
INVENTOR(S): Zukowski, Stanislaw L.
PATENT ASSIGNEE(S): Gore, W. L., and Associates, Inc., USA
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| WO 9222604 | A1 | 19921223 | WO 1992-US4812 | 19920608 |
| W: CA, DE, GB, JP | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE | | | | |
| CA 2110499 | AA | 19921223 | CA 1992-2110499 | 19920608 |
| CA 2110499 | C | 19980623 | | |
| JP 07500122 | T2 | 19950105 | JP 1992-500960 | 19920608 |
| EP 646151 | A1 | 19950405 | EP 1992-914071 | 19920608 |
| EP 646151 | B1 | 19971105 | | |
| R: DE, FR, GB, IT, SE | | | | |
| PRIORITY APPLN. INFO.: | | | US 1991-718324 | 19910614 |
| | | | WO 1992-US4812 | 19920608 |

AB Surface of porous expanded PTFE having a microstructure of nodes interconnected by fibrils, useful for implantable medical devices, fabrics, filters, etc., was hydrophobized by exposing to radio frequency (13.56 MHz) plasma discharge of a reactive etching gas (NF₃, O₂, etc.) to give a water droplet roll-off angle of <10.degree..

IT 9002-84-0, **Polytetrafluoroethylene**
(porous, surface hydrophobization of, gas plasma discharge treatment for)

L27 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1991:44618 CAPLUS
Searcher : Shears 308-4994

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DOCUMENT NUMBER: 114:44618
TITLE: Porous fluoropolymer alloy and its manufacture by extrusion, stretching, and sintering
INVENTOR(S): Browne, Ronnie
PATENT ASSIGNEE(S): Memron, Inc., USA
SOURCE: U.S., 16 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| US 4973609 | A | 19901127 | US 1988-272549 | 19881117 |

AB The title alloy, useful as an ultrafiltration membrane and having an asym. microstructure comprising small nodes, short fibrils, and small pore size on 1 surface and large nodes, long fibrils, and large pore size on the other surface, is prep'd. by forming a compressed extrusion billet from .gtoreq.2 fluoropolymers capable of being stretched after extrusion and having different stretch characteristics, extruding, stretching, and sintering. An extrusion billet prep'd. from PTFE resins (50:50 CD123-T60 mixt.) was extruded to form a tube, stretched 400% at 400.degree.F, and sintered at 680.degree.F to give a porous product having wall thickness 0.022 in. and tensile strength 3636 psi.

IT 9002-84-0P, PTFE
RL: PREP (Preparation)
(membranes, porous, asym., manuf. of, stretching in)

L27 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1990:521487 CAPLUS
DOCUMENT NUMBER: 113:121487
TITLE: Microporous catalytic material and support structure
INVENTOR(S): Manniso, Jame L.
PATENT ASSIGNEE(S): Gore, W. L., and Associates, Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------------|-----------------|----------|
| US 4916110 | A | 19900410 | US 1988-265632 | 19881101 |
| | | Searcher : | Shears | 308-4994 |

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| | | | |
|--|-------------|-----------------|----------|
| CA 2000684 | AA 19900501 | CA 1989-2000684 | 19891013 |
| WO 9005022 | A1 19900517 | WO 1989-US4723 | 19891020 |
| W: AU, DK, JP, NO | | | |
| RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE | | | |
| AU 8944843 | A1 19900528 | AU 1989-44843 | 19891020 |
| EP 441825 | A1 19910821 | EP 1989-912054 | 19891020 |
| R: DE, FR, GB, IT, SE | | | |
| JP 04502878 | T2 19920528 | JP 1989-511311 | 19891020 |
| PRIORITY APPLN. INFO.: | | | |
| | | US 1988-265632 | 19881101 |
| | | WO 1989-US4723 | 19891020 |

AB A microporous catalytic material and support is prep'd. under a reducing atm. by pyrolysis of an interiorly metal-plated porous polymer to leave the residual microporous tubular-configured metal sheaths of the nodes, fibrils, or other surfaces within the interior of the resulting hollow structure.

IT 9002-84-0, Polytetrafluoroethylene
RL: RCT (Reactant)
(in microporous catalyst prep'n.)

L27 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1990:141878 CAPLUS
DOCUMENT NUMBER: 112:141878
TITLE: Filter cartridge having a tunable asymmetric fluoropolymer alloy filter membrane
INVENTOR(S): Browne, Ronnie
PATENT ASSIGNEE(S): Memron, Inc., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| US 4889626 | A | 19891226 | US 1988-272738 | 19881117 |

AB The filter cartridge comprises a tubular self-supporting asym. fluoropolymer membrane disposed between the input and output tubes in a sealed cartridge assembly. The tubular membrane is made from a blend of .gt;req.2 fluoropolymer resins (esp. PTFE resins) and has a microstructure comprised of nodes interconnected by fibrils aligned in a direction, suitable for selectively adjusting the asym. pore sizes throughout the membrane by compressing the material. A guide plugs the end of the inlet tube and provides a filter medium passage from the inside of the inlet tube to the outside of the tubular membrane. The outlet tube provides a filter medium passage from the inside of the tubular

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membrane. Both input and output tubes can slide in the ends of the cartridge assembly for adjusting the axial length and therefore the porosity of the membrane.

IT 9002-84-0, PTFE
(membranes, filter cartridge contg., with adjustable porosity)

L27 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1989:441030 CAPLUS
DOCUMENT NUMBER: 111:41030
TITLE: Porous poly(
tetrafluoroethylene) articles with rapid deformation recovery and their manufacture
INVENTOR(S): House, Wayne D.; Myers, David J.
PATENT ASSIGNEE(S): Gore, W. L., and Associates, Inc., USA
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| EP 313263 | A2 | 19890426 | EP 1988-309542 | 19881012 |
| EP 313263 | A3 | 19891018 | | |
| EP 313263 | B1 | 19930324 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| US 4877661 | A | 19891031 | US 1987-110145 | 19871019 |
| US 5308664 | A | 19940503 | US 1988-248887 | 19880923 |
| AT 87259 | E | 19930415 | AT 1988-309542 | 19881012 |
| PRIORITY APPLN. INFO.: | | | US 1987-110145 | 19871019 |
| | | | US 1988-248887 | 19880923 |
| | | | EP 1988-309542 | 19881012 |

AB Porous shaped PTFE articles, which rapidly recover >5.5% after deformation, have microstructural nodes interconnected by bent fibrils. A tube was prep'd. by compressing powd. PTFE contg. Isopar M (lubricant) and a solvent into billet, heating at 60.degree., extruding at redn. ratio .apprx.240:1, and drying to remove the lubricant at 250.degree. for 30 min. The tube was stretched in 8.4-fold at 290.degree. (having fibril length .apprx.10 .mu.m) and heat-treated for 90 s at 393.degree., having inner diam. 10 mm and exhibiting 1% max. tensile force 0.53 kg and recovery 22.3% after compressing 84% and heating for 3 min at 380.degree..

IT 9002-84-0P, PTFE
(microporous, with rapid recovery from deformation, bent fibril-interconected nodes in relation to)

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L27 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1988:571910 CAPLUS
DOCUMENT NUMBER: 109:171910
TITLE: Manufacture of PTFE tubes
for blood vessels
PATENT ASSIGNEE(S): Gore, W. L., and Associates, Inc., USA
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| JP 63139926 | A2 | 19880611 | JP 1987-198364 | 19870810 |
| JP 07015022 | B4 | 19950222 | | |
| GB 2197870 | A1 | 19880602 | GB 1987-25612 | 19871102 |
| DK 8705900 | A | 19880514 | DK 1987-5900 | 19871111 |
| PRIORITY APPLN. INFO.: | | | US 1986-930411 | 19861113 |

AB The title tubes are prep'd. by extruding PTFE and drawing to give tubes contg. nodes connected by fine fibrils. The inner nodes have angle 15-85.degree. in the longitudinal direction. A mixt. of 1 lb PTFE (Fluon CD123) and 121 mL Ethopa M (solvent) was extruded, drawn 5-fold at .apprx.300.degree. and 400%/s, and heated for .apprx.7 min at 390.degree. to give a porous tube having inner diam. 6.4 mm, wall thickness 0.73 mm, breakdown pressure 51.6 psi, Hoop strength 254.5 psi, fibril length 18 .mu.m, and matrix strength 11,661 psi.
IT 9002-84-0P; PTFE
RL: PREP (Preparation)
(blood vessel manuf. from porous Fluon CD123)

L27 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1986:20380 CAPLUS
DOCUMENT NUMBER: 104:20380
TITLE: Porous tetrafluoroethylene polymer
films or tubes
INVENTOR(S): Kawahigashi, Nobuo; Masuda, Takeo; Umezaki,
Yoshitaka
PATENT ASSIGNEE(S): Nippon Valqua Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Searcher : Shears 308-4994

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| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|--|----------|-----------------|----------|
| JP 60179236 | A2 | 19850913 | JP 1984-35764 | 19840227 |
| AB | The title products with spherical shapes and uniform sizes are prep'd. by extruding and/or pressing an unsintered mixt. of tetrafluoroethylene polymer and a liq. lubricant to give a molding and chem.-etching the molding to remove surface layer. Thus, Aflon CD 1 [poly(tetrafluoroethylene)] powder (diam. 0.2 .mu.) contg. 24 phr solvent naphtha was extruded to form a string, roll-pressed to form an unsintered film (thickness 0.08 mm), heat-treated at 130.degree. to remove naphtha, chem.-etched by immersing into metallic Na in liq. ammonia, and washed with water to give a product with pore diam. 0.2 .mu. and porosity 31%. | | | |
| IT | 9002-84-0P (films or tubes, porous, with spherical shapes and uniform sizes, manuf. of, chem.-etching in) | | | |

L27 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1982:36445 CAPLUS
DOCUMENT NUMBER: 96:36445
TITLE: Multiple reusable tubular PTFE casing and apparatus and process for using same in the production of caseless (skinless) parboil or raw sausages
INVENTOR(S): Becker, Heinz
PATENT ASSIGNEE(S): Ashland Food Technology Holdings S. A., Luxembourg
SOURCE: Brit. UK Pat. Appl., 14 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------|
| GB 2066037 | A | 19810708 | GB 1980-35778 | 19801107 |
| US 4371554 | A | 19830201 | US 1980-201155 | 19801027 |
| PRIORITY APPLN. INFO.: | | | CH 1979-10067 | 19791109 |
| AB | A multiple reusable tubular casing for prodn. of skinless sausages comprises a PTFE [9002-84-0] membrane having a microstructure of nodes connected by fibrils, 70-80% porosity to allow venting of steam and other gaseous fluids radially through the tube, and a texture to facilitate release of the processed sausage. A porous PTFE membrane for parboiled and raw sausages has thickness 0.0015-0.0035 in., wt./area 2.79-4.03 mg/cm ² , d. 0.44-0.63 g/cm ³ , Searcher : Shears 308-4994 | | | |

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Gurley no. (time for 100 cm³ air to pass through 1 in.2 membrane at 4.88 in. head water) 28 s max., bubble point pressure 13 psig min. and 15.6-22 psig av. and water entry pressure 40 psig min.

IT 9002-84-0
(membranes, for reusable sausage casings)

L27 ANSWER 19 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1978:495022 CAPLUS
DOCUMENT NUMBER: 89:95022
TITLE: Prosthetic device
PATENT ASSIGNEE(S): Gore, W. L., and Associates, Inc., USA
SOURCE: Brit., 5 pp. Addn. to Brit. 1,355,373.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| GB 1506432 | A | 19780405 | GB 1975-11563 | 19750320 |
| US 3902198 | A | 19750902 | US 1974-457711 | 19740402 |
| DE 2508570 | A1 | 19751023 | DE 1975-2508570 | 19750227 |
| AU 7578622 | A1 | 19760902 | AU 1975-78622 | 19750227 |
| FR 2265345 | A1 | 19751024 | FR 1975-9900 | 19750328 |
| SE 7503734 | A | 19751003 | SE 1975-3734 | 19750401 |
| JP 50135894 | A2 | 19751028 | JP 1975-39297 | 19750402 |
| JP 53039719 | B4 | 19781023 | | |

PRIORITY APPLN. INFO.: US 1974-457711 19740402

AB The vascular prostheses consisted of expanded porous PTFE [9002-84-0] tubing of wall thickness 20-62 mils, d. 0.22-0.34 g/cc, and a microstructure consisting of nodes interconnected by fibrils, the fibrils being not less than 5 .mu. long; the tubing had porosity 80-90% and matrix tensile strength >7300 psi in at least one direction. E.g., carotid artery grafts in sheep of expanded porous PTFE with fibril length <7 .mu. were patent and displayed absence of fibroblastic and capillary ingrowth, with no neointimal development over the internal surface of the graft.

IT 9002-84-0
RL: BIOL (Biological study)
(porous expanded tubing of, for blood vessel prosthesis)

L27 ANSWER 20 OF 21 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1972:413242 CAPLUS
DOCUMENT NUMBER: 77:13242
TITLE: Metal-air cell
Searcher : Shears 308-4994

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INVENTOR(S) : Uchida, Sumio; Kumano, Shigeo
PATENT ASSIGNEE(S) : Hitachi Maxell Ltd.
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|----------|
| DE 2040346 | A | 19720217 | DE 1970-2040346 | 19700813 |

AB The chem. changes in a metal-air cell are accompanied by phys. changes which generate internal pressures on the cathode and consequently shorten the life of the cell. In an improved cylindrical metal-air or metal-O cell, the tubular cathode consists of a porous hydrophobic poly(tetrafluoroethylene) membrane with an electrocatalytic layer of Ag particles in a poly(tetrafluoroethylene) binder in which a Ni mesh is embedded as support and conductor. The catalytic layer is covered with a hydrophilic parchment paper layer, and the space between the cathode and a porous Zn anode is filled with amalgamated Zn powder and an alk. electrolyte in the form of a gel or paste. Means are provided to make the anode, cathode, and electrolyte liq.-tight and to permit access of air or O₂ to the cathode. The thin-walled cylindrical flexible rubber or vinyl polymer ventilation layer around the pressure deformable cathode is perforated and serves to resist the internal pressure on the cathode. The cathode and ventilation layer are enclosed in a rigid perforated casing.

IT 9002-84-0

RL: PRP (Properties)
(binder, for catalytic silver particles, in metal-air battery)

L27 ANSWER 21 OF 21 CAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1968:452780 CAPLUS
DOCUMENT NUMBER: 69:52780
TITLE: Use of compact porous poly(perfluoroethylene) resin in partition chromatography
AUTHOR(S) : Preobrazhenskii, B. K.; Moskvin, L. N.; Kalyamin, A. V.; Lilova, O. M.; Usikov, B. S.
CORPORATE SOURCE: USSR
SOURCE: Radiokhimiya (1968), 10(3), 377-9
CODEN: RADKAU
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Milled Ftoroplast-4 [poly(tetrafluoroethylene)] was heated at 380 .+- . 10.degree. for 20-30 min. in layers apprx.10

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mm. thick, milled again, the powder fractionated with respect to the particle diam., and the desired fraction heated at 380 .+- 10.degree. for 30 min. in layers 20-30 mm. The material can be used as org. stationary phase in column chromatog. and has properties comparable to those of porous Ftoroplast. Columns may be prep'd. with const. working vol. and height equiv. to the theoretical plate, independent on the column diam. due to the absence of channel and wall effects. The most elastic porous material was prep'd. by selecting particles 0.2-0.5 mm. in diam. prior to the 2nd heating. Tubular and tablet material for the chromatog. could be thus prep'd.

IT 9002-84-0, uses and miscellaneous

RL: TEM (Technical or engineered material use); USES (Uses) (cellular, foam or porous, gas chromatog. stationary phases from compacted)

FILE 'CAPLUS' ENTERED AT 15:34:39 ON 09 JUN 2000

L28 1 S L25 AND MULTILAYER?

L29 0 S L28 NOT L27

(FILE 'MEDLINE, BIOSIS, EMBASE, LIFESCI, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 15:35:41 ON 09 JUN 2000)

L30 69 S L27

L31 1 S L28

L32 69 S L30 OR L31

L33 66 DUP REM L32 (3 DUPLICATES REMOVED)

L33 ANSWER 1 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2000-205679 [18] WPIDS

DOC. NO. NON-CPI: N2000-153022

DOC. NO. CPI: C2000-063459

TITLE: Melt-processable polytetrafluoroethylene for use in thermoplastic applications has a high peak melting temperature and good mechanical properties.

DERWENT CLASS: A14 A81 F01 G03 L03 X25

INVENTOR(S): BASTIAANSEN, C; SMITH, P; TERVOORT, T; VISJAGER, J

PATENT ASSIGNEE(S): (BAST-I) BASTIAANSEN C; (OMLI-N) OMLIDON

TECHNOLOGIES LLC; (SMIT-I) SMITH P; (TERV-I)

TERVOORT T; (VISJ-I) VISJAGER J

COUNTRY COUNT: 87

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-----------|------|------|------|----|----|
|-----------|------|------|------|----|----|

WO 2000008071 A2 20000217 (200018)* EN 34

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW NL OA PT SD SE SL SZ UG ZW

Searcher : Shears 308-4994

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W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---------------|------|-----------------|----------|
| WO 2000008071 | A2 | WO 1999-US17829 | 19990806 |

PRIORITY APPLN. INFO: US 1998-95583 19980806

AN 2000-205679 [18] WPIDS

AB WO 200008071 A UPAB: 20000412

NOVELTY - A melt-processable fluoropolymer (A) has a peak temperature of at least 320 deg. C and good mechanical properties.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) a composition having a continuous polymeric phase comprising compound (A);
- (b) an article comprising compound (A);
- (c) a composition comprising compound (B) which is a melt-processable tetrafluoroethylene polymer or a melt-processable blend of two or more tetrafluoroethylene polymers;
- (d) a method for producing an article comprising the melt-processable composition of (c); and
- (e) a process for connecting parts comprising adhering a part to at least one further part with the composition of (c).

USE - The polymer is used in thermoplastic applications. Generally, the polymer includes most or all applications that currently are covered by standard **polytetrafluoroethylene (PTFE)**, and many of its modified, melt-processable copolymers, thus applications are envisioned, among other industries, in the wire and cable industry, the printed-circuit board industry, the chemical processing industry, the semiconductor industry, the automotive industry, out-door products and coating industry, the food industry, the biomedical industry, and more generally in industries and uses where any combination of high release, anti-stick, high-temperature stability, high chemical resistance, flame resistance, anti-fouling, ultraviolet (UV) resistance, low friction, and low dielectric constant is required.

ADVANTAGE - The **PTFE** polymers are readily melt-processable while maintaining good/suitable mechanical properties or **PTFE** grades having a non-zero melt-flow index in a particular range. They also have a relatively low crystallinity that is beneficial for the toughness of the products fabricated and have superior physical-chemical properties.

Dwg.0/2

Searcher : Shears 308-4994

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L33 ANSWER 2 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-170807 [15] WPIDS
DOC. NO. NON-CPI: N2000-126998
DOC. NO. CPI: C2000-053018
TITLE: Biomolecular solder for tissue repair, particularly of nerves, comprises a concentrated aqueous solution of biomolecules e.g. proteins, that have been denatured to reduce solubility then dried.
DERWENT CLASS: A96 B02 B04 D22 P34
INVENTOR(S): DAWES, J M; DEKKER, P; MAITZ, P; OWEN, E R; PIPER, J A; TRICKETT, R I
PATENT ASSIGNEE(S): (MACQ-N) MACQUARIE RES LTD; (MICR-N) MICROSEARCH FOUND AUSTRALIA
COUNTRY COUNT: 86
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|---|--------------------|------|----|----|
| WO 9965536 | A1 | 19991223 (200015)* | EN | 68 | |
| RW: | AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW | | | | |
| W: | AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TT UA UG US UZ VN YU ZA ZW | | | | |
| AU 9944914 | A | 20000105 (200024) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|---------------|----------|
| WO 9965536 | A1 | WO 1999-AU495 | 19990618 |
| AU 9944914 | A | AU 1999-44914 | 19990618 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9944914 | A Based on | WO 9965536 |

PRIORITY APPLN. INFO: AU 1998-4214 19980618

AN 2000-170807 [15] WPIDS

AB WO 9965536 A UPAB: 20000323

NOVELTY - Biomolecular solder (A) is a solid composition of at least one biomolecule (I) mixed at high concentration with an aqueous solvent and treated to denature (I) and dry the solder. The denaturation of (I) reduces its solubility and alters its mechanical properties so that when moistened these properties are similar to

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those of the tissue being repaired.

DETAILED DESCRIPTION - Biomolecular solder (A) comprises a solid composition containing at least one biomolecule (I) mixed at high concentration with an aqueous solvent and treated to at least partially denature (I) and partly dry the solder, where:

(1) the (partial) denaturation of (I) reduces its solubility and alters its mechanical properties so that when moistened these properties are similar to those of the tissue being repaired; and
 (2) the (partially) denatured (I) has strong internal bonding and is substantially unaffected by water absorption.

INDEPENDENT CLAIMS are also included for the following:

- (a) kit of (partial) tubes and/or shapes formed from (A);
- (b) method for preparing (A);
- (c) solder tubes produced by extrusion of (A); and
- (d) solder containing (I) that has been treated to reduce its solubility.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - (A) are used for any type of tissue repair, e.g. of body tubes, organs, skin, and spinal cord. A particular application is repair of nerves, e.g. where (A) provides a guide for nerve regeneration, in combination with promoters of neuron growth, or where a tube of (A), sealed at one end, is used to cap nerves that can not be rejoined, e.g. in amputation stumps.

ADVANTAGE - When moist (A) is flexible and can be cut, manipulated etc. without fracturing, and since it does not dissolve significantly, can be handled for a long time before activating binding to tissues. Activation may be done through layers of tissue and activating light is applied only to areas covered with (A), minimizing injury to tissue. (A) provides joints that do not leak; function immediately after binding and are at least as strong and long-lasting as those produced by suturing. Joining tissues with (A) is quicker and less traumatic than suturing.

Dwg.0/10

L33 ANSWER 3 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1999-167179 [14] WPIDS
 DOC. NO. NON-CPI: N1999-121839
 DOC. NO. CPI: C1999-048778
 TITLE: Hollow prosthesis for implantation.
 DERWENT CLASS: A14 A96 D22 P32 P34
 INVENTOR(S): DJAKOV, V E; KRYZHANOVSKII, A V; PUGACHEV, A K;
 DIYAKOV, V E; GUSINSKY, A V; KRYZHANOVSKY, A V;
 LEBEDEV, L V; MIKHAILOV, I V
 PATENT ASSIGNEE(S): (EKOF-R) EKOFLON RES PRODN COMPLEX; (EKOF-R)
 EKOFLON SCI PRODN COMPLEX
 COUNTRY COUNT: 55
 PATENT INFORMATION:

Searcher : Shears 308-4994

09/510937

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|----------|-----------|----|----|
| WO 9907307 | A1 | 19990218 | (199914)* | RU | 27 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: AM AT AU AZ BA BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE | | | | | |
| HU IL JP KG KP KR KZ LT LV MD MX PL PT SE SG SK TJ TM TR UA | | | | | |
| US UZ VN YU | | | | | |
| AU 9888929 | A | 19990301 | (199928) | | |
| RU 2128024 | C1 | 19990327 | (200024) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| WO 9907307 | A1 | WO 1998-RU260 | 19980807 |
| AU 9888929 | A | AU 1998-88929 | 19980807 |
| RU 2128024 | C1 | RU 1997-112837 | 19970807 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9888929 | A Based on | WO 9907307 |

PRIORITY APPLN. INFO: RU 1997-112837 19970807

AN 1999-167179 [14] WPIDS

AB WO 9907307 A UPAB: 19990412

NOVELTY - Prosthesis is made of polymeric material and comprises two interconnected and interpenetrating matrices.

DETAILED DESCRIPTION - Hollow prosthesis is made of polymeric material, and has structure comprising two matrices, with one matrix made in shape of nodes connected by fibrils and other matrix defining hollow spaces, both creating together three dimensional network, in which the number of nodes, fibrils and hollow space defining elements per volume unit is not constant. The body of prosthesis is made of at least one layer preferably in form of strip wound onto the core, whose form, size and configuration corresponds to those of the organ (or part of organ) which is to be replaced by implant.

Preferably strip is made of polymeric material, has thickness at least 0.005 mm, and is wound onto core under angle greater than 0 and at most 90 deg., with the width of overlapping section 0.2-5 mm and the pitch equal or smaller than the width of the strip. Body may also comprise more than one layer, with winding pitch greater than the width of strip at least in one layer. Core is made as body of revolution, or in form of trunk with branching or shunting, e.g. bifurcation. At least one layer of prosthesis is made of

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material having vol.% of hollow space 25-94, specific surface of hollow space 0.1-9.0 micro m²/ micro m³, average distance between hollow spaces = 1.5-50 micro m, volume mean chord = 0.4-30 micro m, or of material with hollow space taking 1-35 vol.%, specific surface of hollow space 0.5-20.0 micro m²/ micro m³, average distance between hollow spaces = 0.5-15 micro m and volume mean chord = 0.1-10 micro m. The body of prosthesis may also include spirally applied plait made of the same polymeric material as strip, or of metal or carbon fibre.

An INDEPENDENT CLAIM is also included for the method of preparation of hollow prosthesis for implantation.

USE - Used in medicine, as artificial implants replacing tubular and other hollow internal organs or parts of internal organs, e.g. in intravascular surgery, surgery of extra-secretory organs, surgical oncology, gastroenterology, urology, gynaecology, neurosurgery, etc. and also in modelling of organs and their parts.

ADVANTAGE - New construction makes possible production of thin walled (0.03-0.2 mm) tubular prosthesis, and prosthesis of complex configuration. Material of prosthesis ensures good permeation of cell elements and connective tissue elements and is compatible with live tissue.

DESCRIPTION OF DRAWING(S) - The drawing shows single layer hollow cylindrical prosthesis, whose body is made of strip wound onto body shaping core.

Body 1

thin-walled hollow implantation prosthesis.

2

Dwg.1/10

L33 ANSWER 4 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-517299 [43] WPIDS
DOC. NO. CPI: C1999-150981
TITLE: Dual porosity
polytetrafluoroethylene tube,
e.g. for prosthetic vascular grafts.
DERWENT CLASS: A14 A31 A32 A93 D22
INVENTOR(S): CALCOTE, R; KOWLIGI, R R; WOLLNER, S
PATENT ASSIGNEE(S): (IMPR-N) IMPRA INC
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| US 5935667 | A | 19990810 | (199943)* | | 10 |

APPLICATION DETAILS:

| PATENT NO | KIND | SEARCHER | APPLICATION | DATE |
|-----------|------|----------|-------------|-----------------|
| | | | : | Shears 308-4994 |

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| | | | |
|------------|----------|----------------|----------|
| US 5935667 | A Div ex | US 1993-10974 | 19930129 |
| | Cont of | US 1995-460542 | 19950602 |
| | | US 1997-872093 | 19970610 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|----------|------------|
| US 5935667 | A Div ex | US 5453235 |

PRIORITY APPLN. INFO: US 1993-10974 19930129; US 1995-460542
19950602; US 1997-872093 19970610

AN 1999-517299 [43] WPIDS

AB US 5935667 A UPAB: 19991020

NOVELTY - Dual porosity PTFE tube is made by preforming an assembly of two concentric tubular billets (29,31) one within the other, the inner and outer billets being of mixtures of PTFE particles and different proportions of a lubricant within the range of 10 to 30 wt.%, and the resin particles size being at least 355 microns m. The resulting billets are coextruded into a composite tubular extrudate (42) which is subsequently longitudinally expanded and sintered.

USE - Particularly as prosthetic vascular grafts to bypass occluded or damaged natural blood vessels, or to provide access for long term hemodialysis.

ADVANTAGE - Provides a tube or graft which has an inner surface with a porosity which prevents blood leakage and an outer surface with a porosity which enhances tissue in-growth.

DESCRIPTION OF DRAWING(S) - The figure shows the extrusion system

tubular billets 29,31

extrusion mandrel 32

extrusion die 34

extruded tube 42

Dwg.4/6

L33 ANSWER 5 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-442993 [37] WPIDS

DOC. NO. NON-CPI: N1999-330307

DOC. NO. CPI: C1999-130452

TITLE: Vascular endoprosthesis liner for treatment of vascular congestion and urological constriction by balloon angioplasty.

DERWENT CLASS: A14 A96 D22 P32

INVENTOR(S): GINGRAS, P; HERWECK, S A; KARWOSKI, T; MARTAKOS, P

PATENT ASSIGNEE(S): (ATRI-N) ATRIUM MEDICAL CORP

COUNTRY COUNT: 1

Searcher : Shears 308-4994

09/510937

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| US 5925074 | A | 19990720 | (199937)* | | 11 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| US 5925074 | A | US 1996-759861 | 19961203 |

PRIORITY APPLN. INFO: US 1996-759861 19961203

AN 1999-442993 [37] WPIDS

AB US 5925074 A UPAB: 19990914

NOVELTY - The liner(20) is a fluoropolymer **tube** that has been expanded to create a **porous** microstructure of circumferential disks(27) and fibrils(28). The **tube** has a negligible Poisson coupling. A **balloon** or stent on an inserting **catheter** is used to expand the liner beyond its elastic limit at the site of constriction or congestion.

USE - For the treatment of vascular congestion and urological constriction by **balloon angioplasty**.

ADVANTAGE - The nodal structure of the liner enables it to stretch by 5-10 times without rupturing or significantly changing its **porosity**. The structure also produces a very small Poisson coupling so that the length does not change as the liner is radially expanded. The disk structure provides good dimensional stability and strength.

DESCRIPTION OF DRAWING(S) - The drawing shows the microstructure of the liner.

Liner 20

Disks 27

Fibrils 28

Dwg.2A/5

L33 ANSWER 6 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1999-130331 [11] WPIDS

CROSS REFERENCE: 1993-303517 [38]; 1995-263194 [34]; 2000-037268
[54]

DOC. NO. NON-CPI: N1999-094822

DOC. NO. CPI: C1999-037969

TITLE: Implantable prosthesis especially vascular graft - consists of **porous** sintered PTFE structure with nodes interconnected by **fibrils** and defining tapering channels or pores.

Searcher : Shears 308-4994

09/510937

DERWENT CLASS: A14 A96 D22 P32
INVENTOR(S): HERWECK, S A; KARWOSKI, T; MARTAKOS, P
PATENT ASSIGNEE(S): (ATRI-N) ATRIUM MEDICAL CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|--------------------|------|----|----|
| US 5861033 | A | 19990119 (199911)* | | | 18 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-------------|-------------------------|
| US 5861033 | A | CIP of | US 1992-850862 19920313 |
| | | Cont of | US 1993-31238 19930312 |
| | | Cont of | US 1995-502390 19950714 |
| | | | US 1997-792571 19970130 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-----------|------------|
| US 5861033 | A Cont of | US 5433909 |

PRIORITY APPLN. INFO: US 1993-31238 19930312; US 1992-850862
19920313; US 1995-502390 19950714; US
1997-792571 19970130

AN 1999-130331 [11] WPIDS

CR 1993-303517 [38]; 1995-263194 [34]; 2000-037268 [54]

AB US 5861033 A UPAB: 20000118

A novel implantable prosthesis consists of (a) a **porous PTFE tube** (10) having a uniformly sintered wall with a **porous** microstructure of nodes (12) and **fibrils** (14), tapered channels being defined by the node interspaces and extending through the wall; or (b) a uniformly sintered wall (10) of a single **porous** extruded **PTFE** resin (preferably of high molecular weight) having a **porous** microstructure of nodes (12) interconnected by **fibrils** (14), the interstitial spaces between the nodes (12) being tapered and extending through the wall.

USE - Especially as a vascular graft.

ADVANTAGE - The structure has a high radial tensile strength, high burst pressure and suture strength characteristics, high flexibility and high radial twist compression resistance, so that the **tube** can undergo significant bending or twist before lumen collapse or kinking occurs. Additionally, the **fibrils** of the structure impede fluid leakage while allowing cellular growth through the interstitial spaces.

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Dwg.1/8

L33 ANSWER 7 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-267434 [23] WPIDS
DOC. NO. NON-CPI: N1999-199255
DOC. NO. CPI: C1999-079434
TITLE: Gasket, for sealing pipes - comprises
poly tetra fluoro-
ethylene , and has fibril and
nodes when film diameter has specific value.
DERWENT CLASS: A14 A32 A88 Q65
PATENT ASSIGNEE(S): (NIGO) JAPAN GORE TEX INC
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|--------------------|------|----|----|
| JP 11080705 | A | 19990326 (199923)* | | 10 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 11080705 | A | JP 1997-243098 | 19970908 |

PRIORITY APPLN. INFO: JP 1997-243098 19970908
AN 1999-267434 [23] WPIDS
AB JP 11080705 A UPAB: 19990630
NOVELTY - Gasket is obtained by laminating biaxially oriented porous polytetrafluoroethylene (PTFE) film which has fibrils (1) connected to nodes (2). When the diameter or long axis of the film exceeds 3 μm per scanning area of 300 μm^2 , the nodes are non-existing.
USE - Used for sealing flange parts of pipings and shafts.

ADVANTAGE - The film has good tensile strength and fracture elongation. Gaskets are obtained even at high temperature and pressure. Long life of gasket is ensured which has high bending rigidity, corrosion resistance and heat resistance.

DESCRIPTION OF DRAWING - The figure illustrates the PTFE film. (1) Fibril; and (2) Node.

Dwg.9/9

L33 ANSWER 8 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
DUPLICATE 1
ACCESSION NUMBER: 1999-012877 [02] WPIDS
DOC. NO. NON-CPI: N1999-009663
DOC. NO. CPI: C1999-004484
Searcher : Shears 308-4994

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TITLE: Sealant ring for piping, rotary shaft, precision electronic device - has poly tetra fluoroethylene material in which orientation direction of fibril is along thickness direction.

DERWENT CLASS: A14 A88 Q33 Q65

PATENT ASSIGNEE(S): (NIGO) JAPAN GORE TEX INC

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| JP 10281291 | A | 19981023 | (199902)* | | 7 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|---------------|----------|
| JP 10281291 | A | JP 1997-83017 | 19970401 |

PRIORITY APPLN. INFO: JP 1997-83017 19970401

AN 1999-012877 [02] WPIDS

AB JP 10281291 A UPAB: 19990113

A sealant ring (10) is made of a uniaxial stretching porous polytetrafluoroethylene (PTFE) material. A tube (8) of PTFE material is cut for every predetermined length in longitudinal direction. The direction of the orientation of the fibril of the PTFE material is along the thickness direction.

ADVANTAGE - Improves productivity. Eases manufacture. Improves adhesion effect.

Dwg. 4/12

L33 ANSWER 9 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1998-506748 [43] WPIDS

DOC. NO. CPI: C1998-153041

TITLE: Mass-producible electrolytic ozone generator useful in sterilisation - comprises ozoniser, anode and cathode water boxes, equilibrium device and circulating tubes.

DERWENT CLASS: D22 E36 J03

INVENTOR(S): GAO, R; HU, S; ZHOU, Y

PATENT ASSIGNEE(S): (HUSS-I) HU S; (UYWU-N) UNIV WUHAN; (SONG-I) SONG H

COUNTRY COUNT: 81

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-----------|------|--------|------|----------|----|
| Searcher | : | Shears | | 308-4994 | |

09/510937

WO 9840535 A1 19980917 (199843)* ZH 31
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW
NL OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT UA UG US UZ VN YU ZW
AU 9862884 A 19980929 (199906)
CN 1195643 A 19981014 (199909)
JP 11001789 A 19990106 (199911) 12
JP 3025473 B2 20000327 (200020) 12

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9840535 | A1 | WO 1998-CN30 | 19980304 |
| AU 9862884 | A | AU 1998-62884 | 19980304 |
| CN 1195643 | A | CN 1997-122126 | 19971119 |
| JP 11001789 | A | JP 1998-57071 | 19980309 |
| JP 3025473 | B2 | JP 1998-57071 | 19980309 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------------|-------------|
| AU 9862884 | A Based on | WO 9840535 |
| JP 3025473 | B2 Previous Publ. | JP 11001789 |

PRIORITY APPLN. INFO: CN 1997-122126 19971119; CN 1997-209412U
19970307

AN 1998-506748 [43] WPIDS

AB WO 9840535 A UPAB: 19981104

An electrolytic ozone-generating apparatus comprises an ozoniser (8), anode water box (18) which is connected to the anode chamber of the ozoniser and circulating tube (7) that passes through the anode, cathode water box (4) which is linked to the cathode chamber of the ozoniser and circulating tube (6). The ozoniser has an independent cation-exchange membrane, both sides of which have close contact with anodic catalyst sheet and cathodic catalyst sheet respectively, whose other sides are in contact with the corresponding porous anode and cathode current-collecting plaques.

Also claimed is a method for manufacturing an ozoniser (8) including preparation of: (a) a cathodic catalyst sheet by moulding a paste of 5-15 wt.% platinum (Pt) in platinum-on-carbon (Pt-C) in polytetrafluoroethylene (PTFE) and some water at 80 deg. C then rolling and drying to a 0.1-0.2-mm thick sheet with 5-15 wt.% PTFE, with respect to

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Pt-C; (b) 0.2-0.3-mm thick anodic catalyst sheet similarly from lead dioxide (PbO₂) with 1-5 wt.% PTFE; (c) a porous anode current-collecting sheet made from a sintered porous titanium (Ti) foil by degreasing, treating with 5-20 wt.% hydrochloric acid, washing, coating with an organic solution containing Pt, tin (Sn) and antimony for thermal oxidation at 500-530 deg. C to form a layer of conductive oxide; and (d) a porous cathode current-collecting sheet as (c) but without forming the oxide layer.

USE - The electrolytic ozone-generating apparatus can be applied to produce ozone e.g. for sterilisation.

ADVANTAGE - The apparatus is mass-producible at low cost. It can provide stable operation with high ozone generation efficiency under pressure.

Dwg.1/4

L33 ANSWER 10 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-110705 [10] WPIDS
DOC. NO. NON-CPI: N1998-088533
DOC. NO. CPI: C1998-036501
TITLE: Flexible tubular fluoro-polymer membrane for e.g. gaskets - has at least two layers of fluoro-polymer membrane each showing node and fibril structure.
DERWENT CLASS: A14 A88 Q67
INVENTOR(S): EGRES, R G
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 69
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|---|--------------------|------|----|----|
| WO 9802687 | A1 | 19980122 (199810)* | EN | 54 | |
| RW: | AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN | | | | |
| AU 9739593 | A | 19980209 (199823) | | | |
| EP 912853 | A1 | 19990506 (199922) | EN | | |
| R: | AT CH DE FR GB IT LI NL | | | | |
| US 6016848 | A | 20000125 (200012) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-------------------|----------|
| WO 9802687 | A1 | WO 1997-US12468 | 19970715 |
| AU 9739593 | A | AU 1997-39593 | 19970715 |
| EP 912853 | A1 | EP 1997-936962 | 19970715 |
| | | Searcher : Shears | 308-4994 |

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| | | | |
|------------|----------|-----------------|----------|
| US 6016848 | A CIP of | WO 1997-US12468 | 19970715 |
| | | US 1996-682037 | 19960716 |
| | | US 1997-824241 | 19970325 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------|------------|
| AU 9739593 | A Based on | WO 9802687 |
| EP 912853 | A1 Based on | WO 9802687 |

PRIORITY APPLN. INFO: US 1997-824241 19970325; US 1996-682037
19960716

AN 1998-110705 [10] WPIDS

AB WO 9802687 A UPAB: 19980309

A flexible tubular fluoropolymer membrane (14) of inner diameter above 25.4 mm comprises at least two layers of fluoropolymer membrane (17) each showing a node and fibril structure.

Preferably the fluoropolymer membrane comprises expanded polytetrafluoroethylene (PTFE) at least partially densified and containing a filler as the inner layer. The outer layer comprises fluorinated ethylene propylene copolymer, PFA, liquid crystal polymer or PTFE of lower porosity than the outer layer.

USE - The tubular membrane is used for gasketing or as a vascular graft. It has improved flex resistance.

Dwg. 7/17

L33 ANSWER 11 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-044430 [04] WPIDS
CROSS REFERENCE: 1997-402276 [37]
DOC. NO. NON-CPI: N1999-032463
DOC. NO. CPI: C1999-013767
TITLE: Graft for in situ bypass holds leaflets of venous valve open - has microstructure of nodes interconnected by fibrils with fibril lengths varying along length of graft.
DERWENT CLASS: A96 D22 P32
INVENTOR(S): CAMPBELL, C V; CHASTAIN, J H; KOVACH, L J; LAGUNA, A J; POND, D B
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|--------------------|------------|--------|----------|
| US 5843171 | A | 19981201 (199904)* | | 15 | |
| | | | Searcher : | Shears | 308-4994 |

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APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|----------|----------------|----------|
| US 5843171 | A CIP of | US 1996-592912 | 19960129 |
| | | US 1997-788628 | 19970124 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|----------|------------|
| US 5843171 | A CIP of | US 5747128 |

PRIORITY APPLN. INFO: US 1997-788628 19970124; US 1996-592912
19960129

AN 1999-044430 [04] WPIDS

CR 1997-402276 [37]

AB US 5843171 A UPAB: 19990127

An intra-luminal graft is in the form of a **porous PTFE tube** which has a microstructure of nodes interconnected by **fibrils**. The **tube** has a luminal surface with first (13) and second (11) regions. The **fibril lengths** (45A) in the second region have a greater mean length than those (45B) in the first regions.

USE - As a prosthetic vascular graft. The graft is used as an *in situ* bypass in which a vein is transected to form a vein segment with the graft inserted into a venous valve in the vein segment. It holds the leaflets of the valve in an open condition. Various side branches of the vein segment may be occluded by the graft.

ADVANTAGE - The graft has internal radial support as opposed to using an additional external member. The pore size of the **PTFE** is such that the graft is impervious to leakage of blood and does not require pre-clotting.

Dwg.5/9

L33 ANSWER 12 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-537571 [46] WPIDS
DOC. NO. NON-CPI: N1998-419516
DOC. NO. CPI: C1998-161589
TITLE: **Polytetrafluoroethylene porous mouldings - consisting of porous material having internal structure containing connected with fibril and having specified matrix tensile strength.**
DERWENT CLASS: A14 A83 A88 F07 P73
PATENT ASSIGNEE(S): (YUMI-N) YUMINGTAI PROCESSING CO LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

Searcher : Shears 308-4994

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| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| JP 10237203 | A | 19980908 | (199846)* | | 8 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 10237203 | A | JP 1997-326658 | 19971127 |

PRIORITY APPLN. INFO: JP 1996-350172 19961227

AN 1998-537571 [46] WPIDS

AB JP 10237203 A UPAB: 19981118

PTFE porous mouldings consist of PTFE
porous material having internal structure containing knots
connected with fibril and have matrix tensile strength
(MTS) of 3,000-12,000 psi and coarseness index (CI) of 0.02-0.20
g/cc/psi. Also claimed are: (1) PTFE composite mouldings
containing a sheet of the PTFE porous mouldings
and layers consisting of perfluorocarbon resin sheet having compact
structure and /or metal sheet or graphite sheet; (2) sheet-like
PTFE high density mouldings obtained by heating and
compressing sheet of the PTFE porous mouldings
and baking it at a temperature not lower than the m. pt. of the
PTFE and lower than the heat decomposition temperature of
the PTFE; and (3) sheet-like PTFE high density
mouldings obtained by heating and compressing sheet of the
PTFE porous mouldings at temperature not lower
than the m. pt. of the PTFE and lower than the heat
decomposition temp. of the PTFE.

USE - The porous mouldings are useful as
piping of plants, gaskets of containers and moistureproof
materials for clothing.

ADVANTAGE - The porous mouldings have high cold flow
resistance and chemical resistance.

Dwg.0/3

L33 ANSWER 13 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1997-402276 [37] WPIDS

CROSS REFERENCE: 1999-044430 [04]

DOC. NO. NON-CPI: N1997-334628

DOC. NO. CPI: C1997-129713

TITLE: Porous poly tetra

fluoroethylene tube for vascular
by-pass grafting - comprises regions of long
fibrous structure and denser regions, providing
high radial compressive strength and in-situ

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09/510937

balloon distension.

DERWENT CLASS: A14 A32 A96 D22 P32

INVENTOR(S): CAMPBELL, C V; CHASTAIN, J H; LAGUNA, A J; POND, D

B

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 68

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-----------------|---|----------|-----------|----|----|
| WO 9727820 | A1 | 19970807 | (199737)* | EN | 36 |
| RW: | AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE | | | | |
| | HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW | | | | |
| | MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN | | | | |
| AU 9711288 | A | 19970822 | (199801) | | |
| US 5747128 | A | 19980505 | (199825) | | |
| EP 877582 | A1 | 19981118 | (199850) | EN | |
| R: | DE FR GB | | | | |
| JP 2000503874 W | | 20000404 | (200027) | | 42 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------------|------|-----------------|----------|
| WO 9727820 | A1 | WO 1996-US19301 | 19961204 |
| AU 9711288 | A | WO 1996-US19301 | 19961204 |
| | | AU 1997-11288 | 19961204 |
| US 5747128 | A | US 1996-592912 | 19960129 |
| EP 877582 | A1 | EP 1996-942135 | 19961204 |
| | | WO 1996-US19301 | 19961204 |
| JP 2000503874 W | | WO 1996-US19301 | 19961204 |
| | | JP 1997-527614 | 19961204 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------------|-------------|------------|
| AU 9711288 | A Based on | WO 9727820 |
| EP 877582 | A1 Based on | WO 9727820 |
| JP 2000503874 W | Based on | WO 9727820 |

PRIORITY APPLN. INFO: US 1996-592912 19960129

AN 1997-402276 [37] WPIDS

CR 1999-044430 [04]

AB WO 9727820AN 1 UPAB: 20000606

A tube comprises porous
polytetrafluoroethylene (PTFE) having a
microstructure of nodes interconnected by fibrils, with
Searcher : Shears 308-4994

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regions of differing **fibril** length, measured at the luminal surface of the **tube**.

Preferably, the regions are ring-shaped, and alternate along the **tube** length.

The lengths are preferably at least 20 (more preferably 50, especially 100)% greater in the second regions.

Other region shapes are feasible, preferably spiral and Z-shaped.

The **tube** preferably has a compression resistance of greater than 400 g.

The **tube** preferably recoils minimally after distension to greater diameter, especially beyond which it will not distend in normal use.

USE - A **tube** for vascular grafting, self-supporting against radial forces, which may be used in intra-luminal- and bypass grafting.

ADVANTAGE - The **tube** radially self-supporting; and is also circumferentially distensible, allowing the surgeon to size it suitably for the graft. A balloon catheter may be used for this operation, within the vessel. It therefore resembles a stent. The **tube** may be tapered if necessary.

The **tube** has kink resistance and does not shrink after distention, remaining open for flow.

Dwg.1/8

L33 ANSWER 14 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-385058 [35] WPIDS
CROSS REFERENCE: 1999-561803 [47]
DOC. NO. NON-CPI: N1997-320603
DOC. NO. CPI: C1997-123416
TITLE: Implantable vascular graft of expanded PTFE
- with outer and inner **tubes** of differing
porosity..
DERWENT CLASS: A14 A96 D22 P32 P34
INVENTOR(S): DORMIER, E J; HENDERSON, J; LENTZ, D J; ZDRAHALA, R
J
PATENT ASSIGNEE(S): (MEDX) MEADOX MEDICALS INC
COUNTRY COUNT: 75
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-----------|------|------|------|----|----|
|-----------|------|------|------|----|----|

WO 9725938 A1 19970724 (199735)* EN 23

RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA
PT SD SE SZ UG

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI
GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG
MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA
UG UZ VN

Searcher : Shears 308-4994

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AU 9717582 A 19970811 (199747)
US 5800512 A 19980901 (199842)
EP 879029 A1 19981125 (199851) EN
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 11504548 W 19990427 (199927) 22
AU 711304 B 19991007 (199954)
US 6036724 A 20000314 (200020)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|----------|----------------|----------|
| WO 9725938 | A1 | WO 1997-US1720 | 19970122 |
| AU 9717582 | A | AU 1997-17582 | 19970122 |
| US 5800512 | A | US 1996-588052 | 19960122 |
| EP 879029 | A1 | EP 1997-904915 | 19970122 |
| | | WO 1997-US1720 | 19970122 |
| JP 11504548 | W | JP 1997-526318 | 19970122 |
| | | WO 1997-US1720 | 19970122 |
| AU 711304 | B | AU 1997-17582 | 19970122 |
| US 6036724 | A Div ex | US 1996-588052 | 19960122 |
| | | US 1998-8265 | 19980116 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------------------|--------------------------|
| AU 9717582 | A Based on | WO 9725938 |
| EP 879029 | A1 Based on | WO 9725938 |
| JP 11504548 | W Based on | WO 9725938 |
| AU 711304 | B Previous Publ. Based on | AU 9717582 WO 9725938 |
| US 6036724 | A Div ex | US 5800512 |

PRIORITY APPLN. INFO: US 1996-588052 19960122; US 1998-8265
19980116

AN 1997-385058 [35] WPIDS

CR 1999-561803 [47]

AB WO 9725938 A UPAB: 20000426

An implantable **tubular** prosthesis (10) comprises an expanded **PTFE** composite **tubular** structure having a clearly defined tissue contacting outer **tube** (12) and a weaker concentric inner **tube** (14) having a blood contacting inner surface. The inner and outer **tubes** have a given **porosity** defined by the node and **fibril** spacing of the expanded structure which is different on either side of the interface of the two **tubes** being higher for the inner **tube**.

USE - An implantable vascular graft of expanded **PTFE**
Searcher : Shears 308-4994

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fibres forming concentric tubes of different porosity.

ADVANTAGE - Reduced endothelization promotion.

Dwg.1/5

L33 ANSWER 15 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-118796 [11] WPIDS
CROSS REFERENCE: 1998-494603 [42]
DOC. NO. NON-CPI: N1997-097885
DOC. NO. CPI: C1997-038310
TITLE: Tube for lining living blood vessel, esp.
anastomosis, or repairing prosthetic vascular graft
- uses tube that increases in
circumference with applied pressure up to
circumference which is unchanged by further
pressure increases.
DERWENT CLASS: A96 D22 P32 Q67
INVENTOR(S): CAMPBELL, C V; LAGUNA, A J; LEWIS, J D; MAYRAND, M
E; MYERS, D J
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 67
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|---|----------|-----------|----|----|
| WO 9702791 | A1 | 19970130 | (199711)* | EN | 46 |
| RW: | AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE | | | | |
| | HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW | | | | |
| | MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN | | | | |
| AU 9663964 | A | 19970210 | (199724) | | |
| EP 840577 | A1 | 19980513 | (199823) | EN | |
| R: | DE FR GB | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| WO 9702791 | A1 | WO 1996-US10936 | 19960626 |
| AU 9663964 | A | AU 1996-63964 | 19960626 |
| | | WO 1996-US10936 | 19960626 |
| EP 840577 | A1 | EP 1996-923461 | 19960626 |
| | | WO 1996-US10936 | 19960626 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|-----------------|
| ----- | ----- | ----- |
| AU 9663964 | A Based on | WO 9702791 |
| | Searcher : | Shears 308-4994 |

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EP 840577 A1 Based on WO 9702791

PRIORITY APPLN. INFO: US 1995-499423 19950707

AN 1997-118796 [11] WPIDS

CR 1998-494603 [42]

AB WO 9702791 A UPAB: 19981021

An articles comprising a tube has a circumference which increases in response to the application of internal pressure upto a second circumference with remains the same on application of additional pressure.

Also claimed are: (i) a method of making the claimed tube; (ii) method of repairing an arteriovenous vascular graft; and (iii) method of lining a blood conduit with article having longitudinal axis.

Pref. the tube is porous PTFE
(10) and has helical layers (14, 16) of porous PTFE film or tape wound around it. The porous PTFE has a microstructure of nodes connected by fibrils. The tube has a min. recoil at most 7 % and a wall thickness of at most 0.25 mm. The tube comprises a vascular graft, pref. an intraluminal graft and has a wall thickness of 0.25mm, pref. 0.10mm. The tube is branched and has at least three ends. The intraluminal graft is secured to a blood conduit by a stent or sutures. The circumference is increased by inflation of a balloon or blood pressure. Pref. the tube comprises an interior liner within a tubular form selected from tubes, pipes and blood conduits. Pref. the blood conduits are prosthetic vascular grafts or living blood vessels. The inner liner covers an anastomosis.

USE - Vascular grafts for lining living blood vessels, esp. covering an anastomosis, or repairing prosthetic vascular grafts (claimed).

ADVANTAGE - Tube conforms to vessel or graft and does not subsequently recoil.

Dwg.2/7

L33 ANSWER 16 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1997-164413 [15] WPIDS

DOC. NO. NON-CPI: N1997-135483

DOC. NO. CPI: C1997-052902

TITLE: Implantable tubular vascular prosthesis having enhanced strength etc. - consisting of expanded PTFE tube with helical windings of non-porous, non-elastic, essentially PTFE, multifilament yarn..

DERWENT CLASS: A14 A96 D22 P32 P34

INVENTOR(S): DORNIER, E J; LENTZ, D J; POPADIUK, N; SCHMITT, P; ZDRAHALA, R J; DORMIER, E J

Searcher : Shears 308-4994

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PATENT ASSIGNEE(S) : (MEDX) MEADOX MEDICALS INC

COUNTRY COUNT: 76

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|-----|----|
| US 5607478 | A | 19970304 (199715)* | | 10 | |
| WO 9733533 | A1 | 19970918 (199743) | EN | 221 | |
| RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG | | | | | |
| W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU | | | | | |
| AU 9723228 | A | 19971001 (199805) | | | |
| EP 893976 | A1 | 19990203 (199910) | EN | | |
| R: DE ES FR GB IT NL | | | | | |
| JP 2000502589 W | | 20000307 (200023) | | 22 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------------|------|----------------|----------|
| US 5607478 | A | US 1996-616047 | 19960314 |
| WO 9733533 | A1 | WO 1997-US3901 | 19970313 |
| AU 9723228 | A | AU 1997-23228 | 19970313 |
| EP 893976 | A1 | EP 1997-915924 | 19970313 |
| JP 2000502589 W | | WO 1997-US3901 | 19970313 |
| | | JP 1997-532806 | 19970313 |
| | | WO 1997-US3901 | 19970313 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------------|-------------|------------|
| AU 9723228 | A Based on | WO 9733533 |
| EP 893976 | A1 Based on | WO 9733533 |
| JP 2000502589 W | Based on | WO 9733533 |

PRIORITY APPLN. INFO: US 1996-616047 19960314

AN 1997-164413 [15] WPIDS

AB US 5607478 A UPAB: 19970410

An implantable tubular prosthesis is an expanded PTFE tube having a microporous structure defined by nodes interconnected by fibrils and at least one winding of non-porous, non-elastic, multifilament, essentially PTFE yarn helically wrapped about at least a portion of the length of the tube.

USE - Used as a vascular prosthesis.

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ADVANTAGES -Enhanced radial strength, improved suture retention strength and redn. in tear propagation. The PTFE yarn wrapping improves the strength and tear properties of the prosthesis while maintaining desired porosity characteristics.

Dwg.6/7

L33 ANSWER 17 OF 66 SCISEARCH COPYRIGHT 2000 ISI (R)
ACCESSION NUMBER: 97:664492 SCISEARCH
THE GENUINE ARTICLE: XU176
TITLE: Effects of balloon dilatation on ePTFE structural characteristics
AUTHOR: Salzmann D L; Yee D C; Roach D J; Berman S S; Williams S K (Reprint)
CORPORATE SOURCE: UNIV ARIZONA, DEPT SURG, SECT SURG RES, TUCSON, AZ 85724 (Reprint); UNIV ARIZONA, DEPT SURG, SECT SURG RES, TUCSON, AZ 85724; UNIV ARIZONA, DEPT RADIOL, SECT VASC INTERVENT RADIOL, TUCSON, AZ 85724
COUNTRY OF AUTHOR: USA
SOURCE: JOURNAL OF BIOMEDICAL MATERIALS RESEARCH, (15 SEP 1997) Vol. 36, No. 4, pp. 498-507.
Publisher: JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012.
ISSN: 0021-9304.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 11

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The search for less invasive treatments for cardiovascular disease has lead to the development of endovascular stent grafts, metallic and alloy stents surrounded by prosthetic vascular graft material. Introduced intravascularly, the deployment of stent grafts requires balloon dilatation of the device which results in expansion of the stent along with the vascular graft material. We hypothesized that balloon dilatation of stent grafts would alter the physical structure of the prosthetic graft material. In this study, noncompliant angioplasty balloons were used to dilate expanded polytetrafluoroethylene (ePTFE), a material commonly used for endovascular stent-graft technology. The maximal outer diameter (inflated balloon within the lumen) and the recoiled outer diameter (balloon removed) of two types of ePTFE, 3-mm inside diameter (i.d.) thin wall (30-micron internodal distance) and 4-mm i.d. standard wall (30-micron internodal distance), were measured to compare material recoil. Following balloon dilatation, ePTFE samples were prepared for scanning electron microscopic examination and the following parameters were measured: wall thickness, internodal distance, nodal width, interfiber distance, and fiber width. Following primary dilatation, both types of ePTFE recoiled

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approximately 20% regardless of inflated balloon diameter. However, following eight repetitive balloon dilatations, recoil decreased to approximately 10%. Scanning electron microscopic analysis revealed variations in internodal distance and significant decreases in wall thickness, nodal thickness, and interfiber distance. Fiber width was significantly decreased following dilatation of 3 mm, but not 4 mm ePTFE. Our data support our initial hypothesis that balloon dilatation alters the structure of ePTFE. (C) 1997 John Wiley & Sons, Inc.

L33 ANSWER 18 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-171470 [17] WPIDS
DOC. NO. NON-CPI: N1996-144078
DOC. NO. CPI: C1996-054098
TITLE: Thermally stable, stretched, porous polytetrafluoroethylene material - comprises a microstructure of PTFE homopolymer nodes interconnected by modified PTFE fibrils.
DERWENT CLASS: A14 A85 A94 A96 D22 J01 X12
INVENTOR(S): BRANCA, P A
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 46
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 9607529 | A1 | 19960314 (199617)* | EN | 17 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ | | | | | |
| LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN | | | | | |
| AU 9480775 | A | 19960327 (199627) | | | |
| EP 777567 | A1 | 19970611 (199728) | EN | | |
| R: DE FR GB IT NL SE | | | | | |
| US 5708044 | A | 19980113 (199809) | | 8 | |
| AU 688404 | B | 19980312 (199822) | | | |
| JP 10505378 | W | 19980526 (199831) | | 18 | |
| CA 2183350 | C | 19990427 (199935) | EN | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|-----------|-------------------|----------|
| WO 9607529 | A1 | WO 1994-US11692 | 19941014 |
| AU 9480775 | A | AU 1994-80775 | 19941014 |
| EP 777567 | A1 | EP 1994-931848 | 19941014 |
| | | WO 1994-US11692 | 19941014 |
| US 5708044 | A Cont of | US 1994-300258 | 19940902 |
| | | US 1996-584576 | 19960110 |
| | | Searcher : Shears | 308-4994 |

09/510937

| | | | |
|-------------|---|-----------------|----------|
| AU 688404 | B | AU 1994-80775 | 19941014 |
| JP 10505378 | W | WO 1994-US11692 | 19941014 |
| | | JP 1996-509453 | 19941014 |
| CA 2183350 | C | CA 1994-2183350 | 19941014 |
| | | WO 1994-US11692 | 19941014 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------|------------|
| AU 9480775 | A Based on | WO 9607529 |
| EP 777567 | A1 Based on | WO 9607529 |
| AU 688404 | B Previous Publ. | AU 9480775 |
| | Based on | WO 9607529 |
| JP 10505378 | W Based on | WO 9607529 |
| CA 2183350 | C Based on | WO 9607529 |

PRIORITY APPLN. INFO: US 1994-300258 19940902; US 1996-584576
19960110

AN 1996-171470 [17] WPIDS

AB WO 9607529 A UPAB: 19960428

A stretched porous PTFE material having a microstructure of nodes interconnected by fibrils in which the material comprises a PTFE homopolymer and a modified PTFE polymer. Also claimed is the prepn. of a porous PTFE material comprising (a) forming an aq. dispersion of PTFE homopolymer and a modified PTFE polymer, (b) coagulating the solids from the dispersion, (c) lubricating and paste extruding the coagulated material, and (d) stretching the material.

USE - The blend is used for the mfr. of a tape, filament, rod or tube (all claimed) e.g. for a medical implantable device, cable insulation, filtration membrane or gasketing material.

ADVANTAGE - The blend provides a desired balance of node size and fibril length with the additional property of thermal stability in the resulting stretch material.

Dwg.0/2

ABEQ US 5708044 A UPAB: 19980302

A stretched porous PTFE material having a microstructure of nodes interconnected by fibrils in which the material comprises a PTFE homopolymer and a modified PTFE polymer. Also claimed is the prepn. of a porous PTFE material comprising (a) forming an aq. dispersion of PTFE homopolymer and a modified PTFE polymer, (b) coagulating the solids from the dispersion, (c) lubricating and paste extruding the coagulated material, and (d) stretching the material.

USE - The blend is used for the mfr. of a tape, filament, rod or tube (all claimed) e.g. for a medical implantable

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device, cable insulation, filtration membrane or gasketing material.

ADVANTAGE - The blend provides a desired balance of node size and **fibril** length with the additional property of thermal stability in the resulting stretch material.

Dwg.0/2

L33 ANSWER 19 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1996-171343 [17] WPIDS

DOC. NO. NON-CPI: N1996-144004

DOC. NO. CPI: C1996-054007

TITLE: Asymmetrical porous PTFE

tube - comprises tube of
porous PTFE having micro
structure of nodes inter-connected by
fibrils with opposing first and second
ends.

DERWENT CLASS: A14 A32 A96 D22 P32 P34

INVENTOR(S): KASIC, J F; SIMMS, W; SIMMS, W J

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 45

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|---|--------------------|------|----|----|
| WO 9607370 | A1 | 19960314 (199617)* | EN | 25 | |
| RW: | AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN | | | | |
| AU 9645961 | A | 19960327 (199627) | | | |
| EP 778753 | A1 | 19970618 (199729) | EN | | |
| R: | DE FR GB | | | | |
| JP 10505266 | W | 19980526 (199831) | | 28 | |
| EP 778753 | B1 | 19990922 (199943) | EN | | |
| R: | DE FR GB | | | | |
| DE 69420870 | E | 19991028 (199951) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------------------|----------|
| WO 9607370 | A1 | WO 1994-US10607 | 19941101 |
| AU 9645961 | A | AU 1996-45961 | 19941101 |
| EP 778753 | A1 | EP 1994-932170 | 19941101 |
| | | WO 1994-US10607 | 19941101 |
| JP 10505266 | W | WO 1994-US10607 | 19941101 |
| | | JP 1996-509451 | 19941101 |
| EP 778753 | B1 | EP 1994-932170 | 19941101 |
| | | WO 1994-US10607 | 19941101 |
| DE 69420870 | E | DE 1994-620870 | 19941101 |
| | | Searcher : Shears 308-4994 | |

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EP 1994-932170 19941101
WO 1994-US10607 19941101

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|------------|
| AU 9645961 | A Based on | WO 9607370 |
| EP 778753 | A1 Based on | WO 9607370 |
| JP 10505266 | W Based on | WO 9607370 |
| EP 778753 | B1 Based on | WO 9607370 |
| DE 69420870 | E Based on | EP 778753 |
| | Based on | WO 9607370 |

PRIORITY APPLN. INFO: US 1994-300306 19940902

AN 1996-171343 [17] WPIDS

AB WO 9607370 A UPAB: 19960428

The tapered porous PTFE tube comprises a tube of porous PTFE having a micro-structure of nodes interconnected by fibrils and having opposing first and second ends. Both the first and second ends have an inside and a wall thickness. The inside diameter of the first end is less than or equal to ninety percent of the inside diameter of the second end and the wall thickness of the second end is greater than or equal to the wall thickness of the first end.

The prodn. of tapered porous PTFE tube is also claimed.

USE - Esp. for implantable vascular graft applications as well as in industrial applications e.g. as a filter.

ADVANTAGE - Prevents adhesions around intramammary coronary grafts.

Dwg. 0/7

L33 ANSWER 20 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1996-068726 [07] WPIDS

DOC. NO. NON-CPI: N1996-057787

DOC. NO. CPI: C1996-022347

TITLE: Expandable endovascular stent has liner or cover of polymer tube - which has been extruded, stretched, radially dilated and re-sintered giving low radial expansion coefficient and radial expansion ratio.

DERWENT CLASS: A14 A96 B07 D22 P32 P34

INVENTOR(S): COLONE, W M

PATENT ASSIGNEE(S): (ENDO-N) ENDOMED INC

COUNTRY COUNT: 20

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-----------|------|--------|----------|----|----|
| Searcher | : | Shears | 308-4994 | | |

 WO 9600103 A1 19960104 (199607)* EN 58
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
 W: CA JP US
 EP 767684 A1 19970416 (199720) EN
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
 JP 10506021 W 19980616 (199834) 46

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9600103 | A1 | WO 1995-US7326 | 19950607 |
| EP 767684 | A1 | EP 1995-923776 | 19950607 |
| | | WO 1995-US7326 | 19950607 |
| JP 10506021 | W | WO 1995-US7326 | 19950607 |
| | | JP 1996-503194 | 19950607 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|------------|
| EP 767684 | A1 Based on | WO 9600103 |
| JP 10506021 | W Based on | WO 9600103 |

PRIORITY APPLN. INFO: US 1994-265794 19940627
 AN 1996-068726 [07] WPIDS
 AB WO 9600103 A UPAB: 19960222
 Porous tube consists of highly crystalline polytetra fluoro ethylene (PTFE)
 polymer. It is produced by extruding a lubricant/PTFE resin blend to form a tube with a longitudinal axis, a primary inner diameter and a primary length. It is heated to remove the lubricant. The tube is then stretched longitudinally to give it a secondary length greater than its primary length. The elongate tube is sintered and then radially expanded before further sintering to contract the radially expanded tube.

Also claimed is a tube-like medical implant which includes a PTFE tube made as above and having a microstructure of nodes interconnected by fibrils.

The elongate tubing is restrained to prevent its longitudinal contraction during sintering. The stent (48) includes a radially pre-dilated PTFE tube (50) disposed as a cover endovascular stent support (52). This is useful in treating relatively short vessel lengths, e.g. 0.5-4 cm. The support may be a balloon-expandable, in which case it must have sufficient strength and elasticity to be expanded and retain its expanded dia., e.g. silver, tantalum, stainless steel, gold, titanium, plastic.

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USE - For use as liners and covers for expandable stents used to open and support aortic blood vessels.

ADVANTAGE - The tube retains its tensile strength and other physical properties after being expanded.

Dwg.2A/7

L33 ANSWER 21 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-058174 [06] WPIDS
DOC. NO. NON-CPI: N1996-048577
DOC. NO. CPI: C1996-019297
TITLE: Coronary bypass procedure - using tubular sheath of biocompatible material to protect blood conduit.
DERWENT CLASS: A96 D22 P32
INVENTOR(S): WALBURN, F J
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 45
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 9535072 | A2 | 19951228 (199606)* | EN | 18 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ | | | | | |
| LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN | | | | | |
| AU 9511284 | A | 19960115 (199620) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| WO 9535072 | A2 | WO 1994-US12467 | 19941101 |
| AU 9511284 | A | AU 1995-11284 | 19941101 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|------------|------------|
| AU 9511284 | A Based on | WO 9535072 |

PRIORITY APPLN. INFO: US 1994-261420 19940617

AN 1996-058174 [06] WPIDS

AB WO 9535072 A UPAB: 19960212

Method of using a tubular sheath of biocompatible material with interior and exterior surfaces comprises surgically exposing a blood conduit of a patient and dissecting it from the surrounding tissue, severing it, placing the sheath about it and anastomosing the inserted end of the conduit to a coronary artery.

Also claimed is a coronary bypass procedure to protect a blood Searcher : Shears 308-4994

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conduit involving using the sheath as above.

Pref. the sheath is of **porous**, expanded **PTFE** with a microstructure of nodes interconnected by **fibrils** of length not more than 5 microns and with a shorter **fibril** length on the interior surface. Pref. part of the sheath is **radio-opaque**.

USE - Used for an internal mammary artery (IMA) having a pedicle, an arterial or venous graft or a gastroepiploic artery (all claimed).

ADVANTAGE - The covering is supple, prevents the formation of adhesions and scar tissue, reduces surgery time, reduces the possibility of injury to the IMA in the case of repeat surgery and is clampable during surgery.

Dwg. 0/10

L33 ANSWER 22 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-404007 [51] WPIDS
DOC. NO. NON-CPI: N1995-292517
DOC. NO. CPI: C1995-173530
TITLE: Radially expandable PTFE tubes
as liners for endo vascular stents - allowing
50-400% expansion before structural integrity is
lost..
DERWENT CLASS: A14 A96 D22 P73
INVENTOR(S): COLONE, W M
PATENT ASSIGNEE(S): (ENDO-N) ENDOMED INC
COUNTRY COUNT: 19
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|--|------|----|----|
| WO 9530538 | A1 | 19951116 (199551)* | EN | 29 | |
| | RW: | AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | |
| | W: | CA JP | | | |
| EP 758953 | A1 | 19970226 (199714) | EN | | |
| | R: | AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | |
| JP 10506291 | W | 19980623 (199835) | | 25 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9530538 | A1 | WO 1995-US5490 | 19950503 |
| EP 758953 | A1 | EP 1995-917805 | 19950503 |
| | | WO 1995-US5490 | 19950503 |
| JP 10506291 | W | JP 1995-529063 | 19950503 |
| | | WO 1995-US5490 | 19950503 |

FILING DETAILS:

Searcher : Shears 308-4994

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| PATENT NO | KIND | PATENT NO |
|-------------|-------------|------------|
| EP 758953 | A1 Based on | WO 9530538 |
| JP 10506291 | W Based on | WO 9530538 |

PRIORITY APPLN. INFO: US 1994-239239 19940506

AN 1995-404007 [51] WPIDS

AB WO 9530538 A UPAB: 19951221

Tubular medical implants of porous, highly crystalline PTFE having a microstructure of fibril -interconnected nodes are claimed which are permanently expandable by radial force from a small mfd. dia. to a larger implantation dia. with structural integrity such that (i) the Radial Expansion Coefft. (REC) for 50% expansion is below 2.0 (esp. below 1.0); (ii) the Radial Expansion Ratio (RER) for 50% expansion is below 30 (esp. below 5); (iii) the ratio of Reduction Ratio (RR) to lubricant for 50% expansion is 5 or less; and/or (iv) the structural integrity is maintained an expansion by 50-150% such that an increase in radial force is required for further expansion.

ADVANTAGE - The tubes can be used in combination (esp. as liners) for endovascular stents (claimed), being expandable at 5-10 atmos. and allowing the length of anatomy to be treated by thin-walled tubes to be extended an account of the low REC and RER values permitting 50-400% expansion before loss of structural integrity.

Dwg. 0/1

L33 ANSWER 23 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1995-161533 [21] WPIDS

DOC. NO. NON-CPI: N1995-126744

DOC. NO. CPI: C1995-074790

TITLE: Microporous integrally reinforced PTFE
vascular graft - is produced by twisting and
sintering a ram-extruded, longitudinally ribbed
tube.

DERWENT CLASS: A14 A96 D22 P32

INVENTOR(S): KALIS, R W

PATENT ASSIGNEE(S): (IMPR-N) IMPRA INC

COUNTRY COUNT: 19

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|---|--------------------|--------|----------|----|
| WO 9510247 | A1 | 19950420 (199521)* | EN | 27 | |
| AU 9479785 | A | 19950504 (199536) | | | |
| EP 750481 | A1 | 19970102 (199706) | EN | | |
| | R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | | |
| US 5609624 | A | 19970311 (199716) | | 7 | |
| | Searcher : | | Shears | 308-4994 | |

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APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| WO 9510247 | A1 | WO 1994-US11647 | 19941007 |
| AU 9479785 | A | AU 1994-79785 | 19941007 |
| EP 750481 | A1 | EP 1994-930761 | 19941007 |
| | | WO 1994-US11647 | 19941007 |
| US 5609624 | A | US 1993-134072 | 19931008 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------|------------|
| AU 9479785 | A Based on | WO 9510247 |
| EP 750481 | A1 Based on | WO 9510247 |

PRIORITY APPLN. INFO: US 1993-134072 19931008

AN 1995-161533 [21] WPIDS

AB WO 9510247 A UPAB: 19950602

Microporous, expanded PTFE vascular graft (10) is provided with one or more integral reinforcing ribs (14), whose porosity is substantially the same as that of the tubular graft wall (12). Graft (12) is formed by ram extruding a PTFE billet through an extrusion die (14), whose tubular die exit (42) is provided with one or more grooves (40) that form continuous longitudinal reinforcing ribs (14) along tubular body (12). The extrudate is expanded by known means to create a microporous structure. During expansion, the extrudate is twisted on its axis so that ribs (14) become disposed in a helical manner. In this form, the extrudate is restrained against shrinkage and is sintered in known manner to form a tubular vascular graft with integral helical reinforcing ribs.

ADVANTAGE - The reinforcing ribs are integral with the tubular graft and have substantially the same porosity.

Dwg. 4/9

ABEQ US 5609624 A UPAB: 19970417

A flexible, monolithic, polymer tube, comprises:
a microporous expanded polytetrafluoroethylene tubular member having a microstructure of nodes interconnected by fibrils and having an inner wall diameter and an outer wall diameter, and
at least one microporous expanded polytetrafluoroethylene external rib member projecting outwardly from the outer wall diameter, the at least one expanded polytetrafluoroethylene external rib member being integral

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with the microporous expanded polytetrafluoroethylene tubular member, said microporous expanded polytetrafluoroethylene tubular member and said at least one expanded polytetrafluoroethylene external rib member having substantially equal porosities.

Dwg.1/8

L33 ANSWER 24 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-098826 [13] WPIDS
DOC. NO. NON-CPI: N1995-077973
DOC. NO. CPI: C1995-045021
TITLE: Thin walled plastic tube used e.g. in medical applications - made from two or more layers of expanded poly tetra fluoroethylene film, with or without reinforcement..
DERWENT CLASS: A14 A32 A96 Q67
INVENTOR(S): CAMPBELL, C V; GOFFENA, D G M; LEWIS, J D; MYERS, V J; SPARLING, C M; MYERS, D J
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 46
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|--|--------------------|------|----|----|
| WO 9505555 | A1 | 19950223 (199513)* | EN | 42 | |
| RW: | AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN | | | | |
| AU 9476357 | A | 19950314 (199525) | | | |
| EP 714487 | A1 | 19960605 (199627) | EN | | |
| R: | DE FR GB IT SE | | | | |
| JP 09501759 | W | 19970218 (199717) | | 42 | |
| EP 714487 | B1 | 19980422 (199820) | EN | 28 | |
| R: | DE FR GB IT SE | | | | |
| DE 69409814 | E | 19980528 (199827) | | | |
| US 5972441 | A | 19991026 (199952) | | | |
| US 5976650 | A | 19991102 (199953) | | | |
| US 6025044 | A | 20000215 (200016) | | | |
| US 6027779 | A | 20000222 (200017) | | | |
| US 6027811 | A | 20000222 (200017) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-------------------|----------|
| WO 9505555 | A1 | WO 1994-US9449 | 19940818 |
| AU 9476357 | A | AU 1994-76357 | 19940818 |
| EP 714487 | A1 | EP 1994-926553 | 19940818 |
| | | Searcher : Shears | 308-4994 |

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| | | | |
|-------------|-------------------------------|--|----------------------------------|
| JP 09501759 | W | WO 1994-US9449 | 19940818 |
| EP 714487 | B1 | WO 1994-US9449 | 19940818 |
| DE 69409814 | E | JP 1995-507204 | 19940818 |
| US 5972441 | A CIP of Div ex Cont of | EP 1994-926553 WO 1994-US9449 | 19940818 19940818 |
| US 5976650 | A Div ex | DE 1994-609814 EP 1994-926553 WO 1994-US9449 | 19940818 19940818 19940818 |
| US 6025044 | A CIP of | US 1993-108963 US 1994-204708 US 1995-486122 | 19930818 19940302 19950607 |
| US 6027779 | A CIP of CIP of | US 1997-804851 | 19970224 |
| US 6027811 | A Div ex | US 1993-108963 US 1994-204708 US 1994-247960 | 19930818 19940302 19940524 |
| | | US 1995-486124 | 19950607 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------------|-------------------------|
| AU 9476357 | A Based on | WO 9505555 |
| EP 714487 | A1 Based on | WO 9505555 |
| JP 09501759 | W Based on | WO 9505555 |
| EP 714487 | B1 Based on | WO 9505555 |
| DE 69409814 | E Based on Based on | EP 714487 WO 9505555 |

PRIORITY APPLN. INFO: US 1994-247960 19940524; US 1993-108963
19930818; US 1994-204708 19940302; US
1995-486122 19950607; US 1997-804851
19970224; US 1995-486123 19950607; US
1995-486124 19950607

AN 1995-098826 [13] WPIDS

AB WO 9505555 A UPAB: 19950404

A thin wall tube (10) is formed from
two layers (21, 22) of porous expanded PTFE
film, in which the fibrils (13) of the first layer (21)
are oriented parallel to the longitudinal axis of the tube
(10), and the fibrils (13) of the second layer (22) are
oriented circumferentially.

The layers are pref. joined by fluorinated ethylene-propylene
adhesive, applied discontinuously for a porous
tube or continuously for a non-porous tube

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. The layers may be laid up longitudinally or wrapped helically, and may incorporate reinforcing ribs of FEP or PTFE stringers (111).

USE - Used as a coaxial covering for a vascular stent, or for encasing an electrical conductor or fibre optic bundle, as a filter bag, an intraluminal graft, for use with catheters, or a gastroscope, etc..

ADVANTAGE - The tube is collapsible and combines good mechanical strength with lubricity and flexibility.

Dwg.2/20

L33 ANSWER 25 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-098639 [13] WPIDS
DOC. NO. NON-CPI: N1995-077884
DOC. NO. CPI: C1995-044887
TITLE: Thin-walled, porous,
seamless plastic tube - for use as
intraluminal vascular graft or as covering for
intraluminal stent.
DERWENT CLASS: A14 A32 A96 P34
INVENTOR(S): HOUSE, W D; MOLL, K W; ZUKOWSKI, S L
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 44
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 9505277 | A1 | 19950223 (199513)* | EN | 19 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ | | | | | |
| LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA VN | | | | | |
| AU 9469437 | A | 19950314 (199525) | | | |
| EP 714345 | A1 | 19960605 (199627) | EN | | |
| R: DE FR GB IT SE | | | | | |
| JP 09501585 | W | 19970218 (199717) | | 22 | |
| US 5620763 | A | 19970415 (199721) | | 7 | |
| CA 2167943 | C | 19990817 (199953) | EN | | |
| US 6048484 | A | 20000411 (200025) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|-------------------|----------|
| WO 9505277 | A1 | WO 1994-US4917 | 19940504 |
| AU 9469437 | A | AU 1994-69437 | 19940504 |
| EP 714345 | A1 | EP 1994-917911 | 19940504 |
| | | WO 1994-US4917 | 19940504 |
| JP 09501585 | W | WO 1994-US4917 | 19940504 |
| | | JP 1995-506928 | 19940504 |
| | | Searcher : Shears | 308-4994 |

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| | | | |
|------------|-----------|-----------------|----------|
| US 5620763 | A Cont of | US 1993-108960 | 19930818 |
| | | US 1995-412840 | 19950329 |
| CA 2167943 | C | CA 1994-2167943 | 19940504 |
| | | WO 1994-US4917 | 19940504 |
| US 6048484 | A Cont of | US 1993-108960 | 19930818 |
| | Div ex | US 1995-412840 | 19950329 |
| | | US 1996-749478 | 19961101 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|------------|
| AU 9469437 | A Based on | WO 9505277 |
| EP 714345 | A1 Based on | WO 9505277 |
| JP 09501585 | W Based on | WO 9505277 |
| CA 2167943 | C Based on | WO 9505277 |
| US 6048484 | A Div ex | US 5620763 |

PRIORITY APPLN. INFO: US 1993-108960 19930818; US 1995-412840
19950329; US 1996-749478 19961101

AN 1995-098639 [13] WPIDS

AB WO 9505277 A UPAB: 19950404

A seamless tube (25) formed by clamping a flat sheet (15) of porous expanded PTFE between two plates (11, 13) and forcing a male form (23) through an access hole (17) in plate (11) leading to a female form (19) in plate (13), thereby drawing a portion of the PTFE sheet (15) into a tubular form. This process is carried out under heat, and upon removing the plates (11, 13) the tube (25) may be cut from the sheet (15), leaving the tip (27) portion intact for a blind tube, or removing it for an open tube. The tube may have a wall thickness ranging from less than 0.1 mm to less than 0.06 mm, preferably about 0.2 mm. Also claimed is a tube formed by two layers of 0.05 mm thick membrane with a 0.013 thick non-porous layer of fluorinated ethylene propylene therebetween. The PTFE layers are oriented with their fibrils disposed perpendicularly, and the tube formed as hereinbefore described.

USE - For use as an intraluminal vascular graft, or as a covering for an intraluminal stent.

ADVANTAGE - Produces a very thin walled, seamless tube.

Dwg.2/6

ABEQ US 5620763 A UPAB: 19970522

An article comprising a seamless tube of porous polytetrafluoroethylene having a wall thickness of less than about 0.08 mm and a bulk density less than about

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2.0 g/cc is claimed.
Dwg.3a/5

L33 ANSWER 26 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-098535 [13] WPIDS
DOC. NO. NON-CPI: N1995-077833
DOC. NO. CPI: C1995-044817
TITLE: Thin walled intra-luminal graft
- comprises collapsible tube made from porous expanded plastic film, which may be introduced by catheter delivery methods.
DERWENT CLASS: A96 D22 P32
INVENTOR(S): LEWIS, J D; MYERS, D J
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 44
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 9505131 | A1 | 19950223 (199513)* | EN | 25 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ | | | | | |
| LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA VN | | | | | |
| AU 9469875 | A | 19950314 (199525) | | | |
| EP 714270 | A1 | 19960605 (199627) | EN | | |
| R: DE FR GB IT SE | | | | | |
| JP 09501583 | W | 19970218 (199717) | | 26 | |
| US 5718973 | A | 19980217 (199814) | | 12 | |
| US 5993489 | A | 19991130 (200003) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|-----------|----------------|----------|
| WO 9505131 | A1 | WO 1994-US4807 | 19940504 |
| AU 9469875 | A | AU 1994-69875 | 19940504 |
| EP 714270 | A1 | EP 1994-918646 | 19940504 |
| | | WO 1994-US4807 | 19940504 |
| JP 09501583 | W | WO 1994-US4807 | 19940504 |
| | | JP 1995-506926 | 19940504 |
| US 5718973 | A Cont of | US 1993-108967 | 19930818 |
| | | US 1995-508213 | 19950726 |
| US 5993489 | A Cont of | US 1993-108967 | 19930818 |
| | Cont of | US 1995-508213 | 19950726 |
| | | US 1998-24239 | 19980217 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------|------|-----------------|
| Searcher | : | Shears 308-4994 |

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| | | |
|-------------|-------------|------------|
| AU 9469875 | A Based on | WO 9505131 |
| EP 714270 | A1 Based on | WO 9505131 |
| JP 09501583 | W Based on | WO 9505131 |
| US 5993489 | A Cont of | US 5718973 |

PRIORITY APPLN. INFO: US 1993-108967 19930818; US 1995-508213
19950726; US 1998-24239 19980217

AN 1995-098535 [13] WPIDS

AB WO 9505131 A UPAB: 19950404

A tubular intra-luminal graft (50) formed from one or more layers of porous expanded PTFE film (55) having fibrils oriented in at least two mutually perpendicular directions. Said tube may have a longitudinal seam (51) or a spirally wound seam (63), formed by overlapping the edges of the film (55) and bonding with fluorinated ethylene propylene adhesive. Said tube may incorporate one or more reinforcing ribs (111) disposed either longitudinally or helically, inside or outside said tube, said ribs being formed from stringers of FEP or PTFE.

Also claimed is a tube formed from two layers of film with reinforcing ribs disposed therebetween. A braid (115) may be substituted for ribs (111). The wall thickness of said tube is from less than 0.1 mm to 0.06 mm.

USE - For use as a lining for blood vessels or other body conduits.

ADVANTAGE - A tube having good hoop strength which may be collapsed and introduced by means of a catheter delivery system, a less traumatic procedure than invasive surgery.

Dwg.5/14

ABEQ US 5718973 A UPAB: 19980406

A tubular intra-luminal graft (50) formed from one or more layers of porous expanded PTFE film (55) having fibrils oriented in at least two mutually perpendicular directions. Said tube may have a longitudinal seam (51) or a spirally wound seam (63), formed by overlapping the edges of the film (55) and bonding with fluorinated ethylene propylene adhesive. Said tube may incorporate one or more reinforcing ribs (111) disposed either longitudinally or helically, inside or outside said tube, said ribs being formed from stringers of FEP or PTFE.

Also claimed is a tube formed from two layers of film with reinforcing ribs disposed therebetween. A braid (115) may be substituted for ribs (111). The wall thickness of said tube is from less than 0.1 mm to 0.06 mm.

USE - For use as a lining for blood vessels or other body conduits.

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ADVANTAGE - A tube having good hoop strength which may be collapsed and introduced by means of a catheter delivery system, a less traumatic procedure than invasive surgery.
Dwg.5/10

L33 ANSWER 27 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-269953 [36] WPIDS
DOC. NO. NON-CPI: N1995-207655
DOC. NO. CPI: C1995-122352
TITLE: Prodn. of socket for prosthetic tooth, etc. - using insert with poly-tetra fluoro-ethylene or polyurethane collar.
DERWENT CLASS: A96 D21 P32 P34
INVENTOR(S): STECHMESSER, G
PATENT ASSIGNEE(S): (PLAT-I) PLATH M; (STEC-I) STECHMESSER G
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| DE 4402776 | A1 | 19950803 | (199536)* | | 7 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| DE 4402776 | A1 | DE 1994-4402776 | 19940127 |

PRIORITY APPLN. INFO: DE 1994-4402776 19940127

AN 1995-269953 [36] WPIDS

AB DE 4402776 A UPAB: 19950918

Prodn. of a socket for long-term insertion of an implant whose functional region is intended to be exposed on a body surface (esp. a prosthetic tooth) comprises: (a) fabrication an 'implant body' (esp. tube adapted to receive implant) having a section A intended to be exposed on the body surface and a section B intended to contact subcutaneous connective tissue, where section A is covered with a biologically inert film and section B is coated with a layer of bone cement to which an up to 1 mm.

thick collar of Gore-Tex poly-tetra-

fluoro-ethylene or porous polyurethane

is fixed during hardening; (b) inserting the 'implant body' into the 'implant bed' (esp. jaw bone) so that section A projects no more than 1 mm. from the body surface; (c) allowing a skin of soft tissue to grow over section A for at least 4 weeks; and (d) making an opening in the skin (for insertion of the implant).

ADVANTAGE - Risk of infection is minimised

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Dwg.1/1

L33 ANSWER 28 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1994-217565 [26] WPIDS
DOC. NO. NON-CPI: N1994-171861
DOC. NO. CPI: C1994-098953
TITLE: Implantable lead for cardiac pacemaker or defibrillator - having helically coiled electrical wire covered by insulating layer of impervious plastic and external covering of biocompatible porous PTFE.
DERWENT CLASS: A85 A96 P34 S05
INVENTOR(S): MYERS, D J; WILLIAMS, J M
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 19
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|--------------------|------|----|----|
| WO 9413358 | A1 | 19940623 (199426)* | EN | 24 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: CA DE GB JP | | | | | |
| US 5358516 | A | 19941025 (199442) | | 12 | |
| EP 678044 | A1 | 19951025 (199547) | EN | | |
| R: DE FR GB IT SE | | | | | |
| JP 08504341 | W | 19960514 (199646) | | 28 | |
| EP 678044 | B1 | 19980422 (199820) | EN | 15 | |
| R: DE FR GB IT SE | | | | | |
| DE 69318183 | E | 19980528 (199827) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| WO 9413358 | A1 | WO 1993-US7085 | 19930728 |
| US 5358516 | A | US 1992-988998 | 19921211 |
| EP 678044 | A1 | EP 1993-918450 | 19930728 |
| | | WO 1993-US7085 | 19930728 |
| JP 08504341 | W | WO 1993-US7085 | 19930728 |
| | | JP 1994-514120 | 19930728 |
| EP 678044 | B1 | EP 1993-918450 | 19930728 |
| | | WO 1993-US7085 | 19930728 |
| DE 69318183 | E | DE 1993-618183 | 19930728 |
| | | EP 1993-918450 | 19930728 |
| | | WO 1993-US7085 | 19930728 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------|------|-----------------|
| Searcher | | : |
| | | Shears 308-4994 |

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| | | |
|-------------|-------------|------------|
| EP 678044 | A1 Based on | WO 9413358 |
| JP 08504341 | W Based on | WO 9413358 |
| EP 678044 | B1 Based on | WO 9413358 |
| DE 69318183 | E Based on | EP 678044 |
| | Based on | WO 9413358 |

PRIORITY APPLN. INFO: US 1992-988998 19921211

AN 1994-217565 [26] WPIDS

AB WO 9413358 A UPAB: 19940817

Implantable lead (10) comprises at least one electrical conductor wire (11) having a layer of impervious plastic insulation (17,19) tubularly and coaxially surrounding it and an exterior coaxial covering of **porous polytetrafluoroethylene** (21).

The electrical conductor wire is helically wound and has a second layer of plastic insulation (13) covering its surface. The impervious plastic insulation is silicone tubing or thermoplastic fluoropolymer. The exterior coaxial covering of **porous PTFE** has a microstructure of nodes interconnected by fibrils longer than 4 microns, pref. longer than 10 microns. The impervious plastic insulation is esp. a laminated film of **porous PTFE** and non-porous thermoplastic fluoropolymer. The fluoropolymer is esp. ethylene-tetrafluoroethylene copolymer, fluorinated ethylene propylene, or perfluoroalkoxy resin.

USE/ADVANTAGE - Implantable lead is for use with implantable devices such as cardiac pacemakers, defibrillators, and other electrotherapy applications. The **porous PTFE** external surface of the lead has excellent biocompatibility and excellent flexibility. The layer of impervious plastic between it and the electrical wire prevents body fluids from contacting the wire.

Dwg.2/7

ABEQ US 5358516 A UPAB: 19941212

An implantable lead has an electrical conductor wire (89) surrounded by impervious plastic insulation (12) and a coaxial outer covering (21) of **porous PTFE**. The wire is helically wound and the insulation may be a laminated film with a **porous PTFE** layer facing the wire and an outer non-porous thermoplastic fluorocarbon polymer layer.

Alternatively, the insulation may be silicone tubing and the covering may be of the laminated film but with the **porous** layer facing outwardly. The fluorocarbon polymer is pref. ethylene-tetrafluoroethylene copolymer, fluorinated ethylenepropylene copolymer or perfluoroalkoxy resin.

USE - E.g. for a cardiac pacemaker or defibrillator or for other electrotherapy applications.

Dwg.1/7

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L33 ANSWER 29 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1994-135260 [16] WPIDS
DOC. NO. NON-CPI: N1994-106315
DOC. NO. CPI: C1994-062545
TITLE: Electrical lead for cardiac pacemakers,
defibrillators - has conductors covered with inner
insulating elastomer layer and outer porous
PTFE layer...
DERWENT CLASS: A96 P34 S05
INVENTOR(S): SOUKUP, T M; STALEY, R A
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 19
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|---|----------|-----------|----|----|
| WO 9407565 | A1 | 19940414 | (199416)* | EN | 16 |
| RW: | AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | |
| W: | CA DE GB JP SE | | | | |
| FR 2696347 | A1 | 19940408 | (199417) | | 14 |
| EP 662853 | A1 | 19950719 | (199533) | EN | |
| R: | DE FR GB IT SE | | | | |
| US 5466252 | A | 19951114 | (199551) | | 7 |
| JP 08501963 | W | 19960305 | (199644) | | 18 |
| EP 662853 | B1 | 19971119 | (199751) | EN | 8 |
| R: | DE FR GB IT SE | | | | |
| DE 69223264 | E | 19980102 | (199806) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|-----------------|----------|
| WO 9407565 | A1 | WO 1992-US10675 | 19921214 |
| FR 2696347 | A1 | FR 1993-11107 | 19930917 |
| EP 662853 | A1 | WO 1992-US10675 | 19921214 |
| | | EP 1993-901387 | 19921214 |
| US 5466252 | A | US 1992-955611 | 19921002 |
| JP 08501963 | W | WO 1992-US10675 | 19921214 |
| | | JP 1994-508985 | 19921214 |
| EP 662853 | B1 | WO 1992-US10675 | 19921214 |
| | | EP 1993-901387 | 19921214 |
| DE 69223264 | E | DE 1992-623264 | 19921214 |
| | | WO 1992-US10675 | 19921214 |
| | | EP 1993-901387 | 19921214 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-----------|------|-----------------|
| Searcher | : | Shears 308-4994 |

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| | | |
|-------------|-------------|------------|
| EP 662853 | A1 Based on | WO 9407565 |
| JP 08501963 | W Based on | WO 9407565 |
| EP 662853 | B1 Based on | WO 9407565 |
| DE 69223264 | E Based on | EP 662853 |
| | Based on | WO 9407565 |

PRIORITY APPLN. INFO: US 1992-955611 19921002

AN 1994-135260 [16] WPIDS

AB WO 9407565 A UPAB: 19940608

Implantable lead has at least one helically wound electrical conductor (12), a **tubular** covering of elastomeric polymer (14) coaxially covering the conductor(s) and an exterior **tubular** covering of porous PTFE (16) having a microstructure of nodes (24) interconnected with **fibrils** (22).

Pref., the elastomeric polymer is silicone or polyurethane and the **PTFE** layer is partially adhered to it by silicone adhesive. Pref. the **PTFE** layer is elastically stretchable and recoverable by at least 1.5 times its relaxed length.

USE/ADVANTAGE - Electrical lead for cardiac pacemakers, defibrillators and other implantable electrical devices. Inner elastomer layer provides good electrical insulation and **PTFE** layer is biocompatible.

Dwg.3/3

ABEQ US 5466252 A UPAB: 19951221

An implantable lead comprises a helically wound electrical conductor, a **tubular** covering of an elastomeric polymer having a length, the **tubular** covering coaxially surrounding the wound electrical conductor, in which the **tubular** covering is impervious to body fluids; and an exterior **tubular** covering of porous PTFE having a length and having a microstructure of nodes interconnected by **fibrils**, in which the exterior **tubular** covering of porous PTFE coaxially surrounds the **tubular** covering of an elastomeric polymer, and in which the exterior covering of porous PTFE is previous to body fluids.

USE/ADVANTAGE - For use with cardiac pacemakers. The lead has improved tensile strength, high flexibility improved insulating characteristics, high biocompatibility and controlled amts. of elongation during the application of tension.

Dwg.0/3

ABEQ EP 662853 B UPAB: 19971222

An implantable lead (10) comprising at least one helically wound electrical conductor (12) and an exterior **tubular** covering of porous polytetrafluoroethylene (16), characterised in that the implantable lead (10) has a **tubular** covering of an elastomeric polymer (14) coaxially covering the at least one helically wound electrical conductor (12)

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and the exterior tubular covering of porous polytetrafluoroethylene (16) has a microstructure of nodes (24) interconnected by fibrils (26).

Dwg. 3/3

L33 ANSWER 30 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1994-065634 [08] WPIDS
DOC. NO. CPI: C1994-029474
TITLE: Porous poly tetra
fluoroethylene material comprising
PTFE and a heat-meltable resin - having
excellent buckling resistance on bending and
tearing and useful as a medical treatment material.
DERWENT CLASS: A14 A96 D22 H06 J01 L03
INVENTOR(S): ONOGI, H; TANAKA, O; YAMAMOTO, K
PATENT ASSIGNEE(S): (DAIK) DAIKIN IND LTD
COUNTRY COUNT: 18
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|--------------------|------|----|----|
| WO 9403531 | A1 | 19940217 (199408)* | JA | 25 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE | | | | | |
| W: JP US | | | | | |
| EP 613921 | A1 | 19940907 (199434) | EN | 13 | |
| R: DE FR GB | | | | | |
| JP 06505176 | X | 19940804 (199435) | | | |
| EP 613921 | A4 | 19940928 (199534) | | | |
| US 5688836 | A | 19971118 (199801) | | 10 | |
| EP 613921 | B1 | 19991117 (199953) | EN | | |
| R: DE FR GB | | | | | |
| DE 69327041 | E | 19991223 (200006) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|----------------------------|------|----------------|----------|
| WO 9403531 | A1 | WO 1993-JP1051 | 19930727 |
| EP 613921 | A1 | EP 1993-916228 | 19930727 |
| | | WO 1993-JP1051 | 19930727 |
| JP 06505176 | X | WO 1993-JP1051 | 19930727 |
| | | JP 1994-505176 | 19930727 |
| EP 613921 | A4 | EP 1993-916228 | |
| US 5688836 | A | WO 1993-JP1051 | 19930727 |
| | | US 1994-211056 | 19940325 |
| EP 613921 | B1 | EP 1993-916228 | 19930727 |
| | | WO 1993-JP1051 | 19930727 |
| DE 69327041 | E | DE 1993-627041 | 19930727 |
| | | EP 1993-916228 | 19930727 |
| Searcher : Shears 308-4994 | | | |

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WO 1993-JP1051 19930727

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------------|-------------------------|
| EP 613921 | A1 Based on | WO 9403531 |
| JP 06505176 | X Based on | WO 9403531 |
| US 5688836 | A Based on | WO 9403531 |
| EP 613921 | B1 Based on | WO 9403531 |
| DE 69327041 | E Based on Based on | EP 613921 WO 9403531 |

PRIORITY APPLN. INFO: JP 1992-203552 19920730

AN 1994-065634 [08] WPIDS

AB WO 9403531 A UPAB: 19940407

A porous polytetrafluoroethylene (PTFE)

) material is composed of a **fibril** part mainly comprising **PTFE** and a node comprising a heat-meltable resin having a mp lower than that of **PTFE**.

Pref., preparation of the **PTFE** material comprises: extrusion-moulding a powder comprising **PTFE** particles, obtained by emulsion-polymerisation of **PTFE** optionally followed by rolling to give an unsintered material, and particles of a heat-meltable resin having a mp lower than that of **PTFE**, stretching at a temp. lower than the mp of the heat-meltable resin, and subjecting to heat-treatment at a temp higher than the mp of **PTFE**.

USE/ADVANTAGE - The **PTFE** material is useful in medical treatment and for seals and esp. for medical treatment **tubes** such as artificial blood **tubes** and for artificial organisms. The material can be used as a separating **tube** for separating water-drops and dust from the exhaust sensors of automobiles. It is also used as a material for cable insulators and as a seal for gases and liquids. The **PTFE** material has an improved bondability and is free from the problem of buckling resistance on bending and tearing in the axial direction of the **tube**.

Dwg.0/7

ABEQ US 5688836 A UPAB: 19980107

A porous polytetrafluoroethylene (PTFE)

) material is composed of a **fibril** part mainly comprising **PTFE** and a node comprising a heat-meltable resin having a mp lower than that of **PTFE**.

Pref., preparation of the **PTFE** material comprises: extrusion-moulding a powder comprising **PTFE** particles, obtained by emulsion-polymerisation of **PTFE** optionally followed by rolling to give an unsintered material, and particles of a heat-meltable resin having a mp lower than that of **PTFE**,

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stretching at a temp. lower than the mp of the heat-meltable resin, and subjecting to heat-treatment at a temp higher than the mp of PTFE.

USE/ADVANTAGE - The PTFE material is useful in medical treatment and for seals and esp. for medical treatment tubes such as artificial blood tubes and for artificial organisms. The material can be used as a separating tube for separating water-drops and dust from the exhaust sensors of automobiles. It is also used as a material for cable insulators and as a seal for gases and liquids. The PTFE material has an improved bondability and is free from the problem of buckling resistance on bending and tearing in the axial direction of the tube.

Dwg.3/8

L33 ANSWER 31 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1994-028395 [04] WPIDS
DOC. NO. NON-CPI: N1994-022036
DOC. NO. CPI: C1994-012973
TITLE: Pyrotechnic sheet material, for vehicle occupant safety restraint systems - comprises porous polymeric film substrate eg PTFE and oxidisable material eg magnesium.
DERWENT CLASS: A94 K04 P73 Q17
INVENTOR(S): CHAN, S K; GRAHAM, S J; LEIPER, G A; KWAN, C S
PATENT ASSIGNEE(S): (ICIL) ICI CANADA INC; (ICIL) IMPERIAL CHEM IND PLC; (CHAN-I) CHAN S K
COUNTRY COUNT: 13
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------------------|------|----------|-----------|----|----|
| GB 2269379 | A | 19940209 | (199404)* | | |
| EP 584922 | A2 | 19940302 | (199409) | EN | 5 |
| R: BE DE ES FR GB IT SE | | | | | |
| AU 9344490 | A | 19940210 | (199411) | | |
| CA 2101624 | A | 19940207 | (199417) | | |
| JP 06172077 | A | 19940621 | (199429) | 5 | |
| ZA 9305321 | A | 19940727 | (199431) | 13 | |
| EP 584922 | A3 | 19941109 | (199535) | | |
| AU 661786 | B | 19950803 | (199539) | | |
| US 5518807 | A | 19960521 | (199626) | 5 | |
| EP 584922 | B1 | 19961106 | (199649) | EN | 7 |
| R: BE DE ES FR GB IT SE | | | | | |
| DE 69305806 | E | 19961212 | (199704) | | |
| ES 2095012 | T3 | 19970201 | (199712) | | |
| MX 186358 | B | 19971010 | (199901) | | |

APPLICATION DETAILS:

Searcher : Shears 308-4994

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| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|-----------------|----------|
| GB 2269379 | A | GB 1993-14576 | 19930714 |
| EP 584922 | A2 | EP 1993-305521 | 19930714 |
| AU 9344490 | A | AU 1993-44490 | 19930805 |
| CA 2101624 | A | CA 1993-2101624 | 19930729 |
| JP 06172077 | A | JP 1993-192187 | 19930803 |
| ZA 9305321 | A | ZA 1993-5321 | 19930722 |
| EP 584922 | A3 | EP 1993-305521 | 19930714 |
| AU 661786 | B | AU 1993-44490 | 19930805 |
| US 5518807 | A | US 1993-102779 | 19930806 |
| EP 584922 | B1 | EP 1993-305521 | 19930714 |
| DE 69305806 | E | DE 1993-605806 | 19930714 |
| | | EP 1993-305521 | 19930714 |
| ES 2095012 | T3 | EP 1993-305521 | 19930714 |
| MX 186358 | B | MX 1993-4751 | 19930805 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------|------------|
| AU 661786 | B Previous Publ. | AU 9344490 |
| DE 69305806 | E Based on | EP 584922 |
| ES 2095012 | T3 Based on | EP 584922 |

PRIORITY APPLN. INFO: GB 1992-16720 19920806

AN 1994-028395 [04] WPIDS

AB GB 2269379 A UPAB: 19940608

A pyrotechnic sheet material (I) (10) comprises a substrate (11) of an oxidising polymeric film (II) having (i) at least a portion of a surface layer (12, 13) which is porous (III); and (ii) a layer of oxidisable material (IV) on at least (III) (II) and (IV) are capable of reacting together exothermically on ignition. * Also claimed is the prepn. of (I) by depositing (IV) on at least (III).

Pref. (III) comprises interconnecting pores and is pref. vapour-permeable. Pref. the pores comprise partially, an incendiary material (Na azide). (III) may comprise a microporous structure.

Pref. of nodes and fibrils of polymer. The specific surface of (III) is at least 1.5 (more than 10) times that of a solid polymeric film of the same dimensions. (II) may contain chemically bound atoms from halogens, oxygen, sulphur, nitrogen, and phosphorus. Esp. (II) comprises a fluoropolymer from e.g.

PTFE, polychlorotrifluoroethylene, copolymers of hexafluoropropylene and tetrafluoroethylene, copolymers of trichloroethylene and vinylidene and mixts. of two or more such polymers (13 components given) (II) has a porosity of 5-90 (70-90) %.

USE/ADVANTAGE - (I) is used in vehicle occupant safety

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restraint systems (claimed) and is also used in e.g. gas generators, rocket motors and shock wave transmission tubes. (I) is provided having an enhanced reaction rate and consequently enhanced rate and violence of burning and enhanced rate of energy release.

Dwg.1/1

ABEQ US 5518807 A UPAB: 19960705

A pyrotechnic sheet material comprising a substrate of oxidizing polymeric film having at least a portion of a surface layer which comprises interconnecting pores and is vapour permeable and having a porosity of 5-90 % based on total vol. of the porous portion occupied by pores and having a vapour-deposited layer of oxidisable metal selected from the gp. consisting of lithium, sodium, magnesium, beryllium, calcium, strontium, barium, aluminum, titanium, zirconium and alloys of it on at least a porous portion of the polymer layer, at least part of the oxidisable metal being accommodated within interconnecting pores of the polymeric film and the ratio of the polymeric film and the oxidisable metal at the porous portion being such that the metal and the film are conjointly capable of sustained exothermic reaction on ignition.

Dwg.1/1

ABEQ EP 584922 B UPAB: 19961205

A pyrotechnic sheet material (10) comprising a substrate of oxidizing polymeric film (11) having a vapour-deposited layer of oxidisable metallic material (14, 15) on at least a portion of the surface of the polymeric film (11), the polymeric film and the oxidisable material at the surface portion being conjointly capable of reacting together exothermically on ignition, characterised in that at least part of the surface portion of the oxidizing polymeric film (11) comprises interconnecting pores and is vapour-permeable, and at least part of the oxidisable material is accommodated within the interconnecting pores.

Dwg.1/1

L33 ANSWER 32 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1994-287034 [36] WPIDS

DOC. NO. NON-CPI: N1994-226025

DOC. NO. CPI: C1994-130934

TITLE: Flexible tube partic. for endoscopes,
catheters and forceps - has porous
expanded PTFE substrate with fluoro
silicone rubber in voids and non-porous
fluorosilicate rubber and PTFE surface..

DERWENT CLASS: A14 A26 A32 A96 P34

INVENTOR(S): FUJIE, T; NOMI, H; SUZUKI, A; YOSHIDA, M

PATENT ASSIGNEE(S): (NIGO) JAPAN GORE TEX INC; (OLYU) OLYMPUS OPTICAL CO LTD

COUNTRY COUNT: 7

PATENT INFORMATION:

Searcher : Shears 308-4994

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| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------------|------|----------|-----------|----|----|
| EP 615832 | A1 | 19940921 | (199436)* | EN | 14 |
| R: DE FR GB IT SE | | | | | |
| JP 06270301 | A | 19940927 | (199443) | | 10 |
| US 5529820 | A | 19960625 | (199631) | | 11 |
| EP 615832 | B1 | 19980715 | (199832) | EN | |
| R: DE FR GB IT SE | | | | | |
| DE 69411611 | E | 19980820 | (199839) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| EP 615832 | A1 | EP 1994-301932 | 19940317 |
| JP-06270301 | A | JP 1993-84017 | 19930317 |
| US 5529820 | A | US 1994-214332 | 19940316 |
| EP 615832 | B1 | EP 1994-301932 | 19940317 |
| DE 69411611 | E | DE 1994-611611 | 19940317 |
| | | EP 1994-301932 | 19940317 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------|-----------|
| DE 69411611 | E Based on | EP 615832 |

PRIORITY APPLN. INFO: JP 1993-84017 19930317
AN 1994-287034 [36] WPIDS
AB EP 615832 A UPAB: 19941102
Flexible tube has a non-porous luminal surface (19) of silicone rubber and PTFE and a tubular porous expanded PTFE substrate (10) with a microstructure of nodes interconnected by fibrils with voids in between. At least some of the voids (15, 17) are filled with silicone rubber (21).

Also claimed are a method of making the tube and endoscopic appts. using the tube.

Pref. the silicone rubber is fluorosilicone rubber.

USE - Flexible tube for use as endoscope channel tube (claimed), forceps channel tube, bodily fluid transport tube, catheter tube and transporting liquids. or a gas after it has been destructively tested.

ADVANTAGE - Tube has excellent lubricity, resistance to contamination and chemicals and is very flexible.

Dwg.1/5

ABEQ US 5529820 A UPAB: 19960808

A flexible tube comprising a tubular substrate

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of porous expanded polytetrafluoroethylene
having a microstructure of nodes interconnected by fibrils
and having void spaces between fibrils, the tube
having an outer surface and a luminal surface, where the void spaces
adjacent to the luminal surface are filled with silicone rubber such
that the luminal surface comprises a non-porous surface of
~~polytetrafluoroethylene and silicone rubber where a~~
~~continuous coat of the silicone rubber is not present on the luminal~~
~~surface of the tube, and where the void spaces adjacent to~~
~~the outer surface are open.~~

Dwg.1/5

L33 ANSWER 33 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-368896 [46] WPIDS
CROSS REFERENCE: 1997-318689 [29]
DOC. NO. NON-CPI: N1993-284685
DOC. NO. CPI: C1993-163788
TITLE: Mechanical push-pull cable partic. useful in
bicycle gear shifting - comprises steel wire core
bonded with fluoro polymer adhesive to
porous PTFE layer.
DERWENT CLASS: A88 Q23 Q62
INVENTOR(S): DAVIDSON, D; JOHNSON, J L; MYERS, D J; PERKO, V L;
DAVIDSON, D F
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 16
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|---|--------------------|------|----|----|
| WO 9322570 | A1 | 19931111 (199346)* | EN | 24 | |
| RW: | AT BE CH DE DK ES FR GB GR IT LU MC NL SE | | | | |
| W: | CA DE GB JP | | | | |
| FR 2692013 | A1 | 19931210 (199402) | | 25 | |
| EP 640188 | A1 | 19950301 (199513) | EN | | |
| R: | DE FR GB IT SE | | | | |
| JP 07506170 | W | 19950706 (199535) | | 11 | |
| EP 640188 | B1 | 19980513 (199823) | EN | 13 | |
| R: | DE FR GB IT SE | | | | |
| DE 69225502 | E | 19980618 (199830) | | | |
| CA 2132703 | C | 19990316 (199929) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|----------|----------------|-----------------|
| WO 9322570 | A1 | WO 1992-US4681 | 19920604 |
| FR 2692013 | A1 | FR 1993-4112 | 19930407 |
| EP 640188 | A1 | EP 1992-914219 | 19920604 |
| | Searcher | : | Shears 308-4994 |

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| | | | |
|-------------|----|-----------------|----------|
| JP 07506170 | W | WO 1992-US4681 | 19920604 |
| EP 640188 | B1 | WO 1992-US4681 | 19920604 |
| DE 69225502 | E | JP 1993-519212 | 19920604 |
| CA 2132703 | C | EP 1992-914219 | 19920604 |
| | | WO 1992-US4681 | 19920604 |
| | | DE 1992-625502 | 19920604 |
| | | EP 1992-914219 | 19920604 |
| | | WO 1992-US4681 | 19920604 |
| | | CA 1992-2132703 | 19920604 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------|---------------------|
| EP 640188 | A1 | Based on WO 9322570 |
| JP 07506170 | W | Based on WO 9322570 |
| EP 640188 | B1 | Based on WO 9322570 |
| DE 69225502 | E | Based on EP 640188 |
| | | Based on WO 9322570 |

PRIORITY APPLN. INFO: US 1992-878805 19920504

AN 1993-368896 [46] WPIDS

CR 1997-318689 [29]

AB WO 9322570 A UPAB: 19970723

A mechanical push-pull cable comprises (1) a steel wire core; (2) a layer of fluoropolymer adhesive covering (1); and (3) an outer layer of PTFE covering (2).

Pref. the combined thickness of (2) and (3) is less than 0.25mm, and (1) is a multiply stranded steel wire. (2) is pref. fluorinated ethylene propylene or perfluoro(alkoxy ethylene)-tetrafluoroethylene copolymer, and has a smooth outer surface with a uniform circular cross-section. (3) is a helically wrapped tape of porous expanded PTFE, opt.

impregnated with a graphite filler. The cable may be fitted inside a support tube with clearance sufficient to allow the push-pull cable to slide axially within the bore of the support tube, and may further comprise contamination seals attached to the tube ends. The support tube opt. has an inner surface of non-porous PTFE.

The mechanical push-pull cable opt. comprises (a) a steel wire core; and (b) a tape outer layer helically wrapped around and covering (a), wherein the tape comprises porous expanded PTFE having a microstructure of nodes interconnected by fibrils oriented substantially parallel to the tape length.

USE/ADVANTAGE - The cable is partic. useful in bicycle gearshifting, eg. derailleuer gears (claimed), and exhibits low friction, long life span and low maintenance compared to prior art cables.

Dwg.1/6

Searcher : Shears 308-4994

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L33 ANSWER 34 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-303517 [38] WPIDS
CROSS REFERENCE: 1995-263194 [34]; 1999-130331 [11]; 2000-037268
[54]
DOC. NO. NON-CPI: N1993-233322
DOC. NO. CPI: C1993-135263
TITLE: Prodn. of shaped **porous** fluoro polymer article having variable cross-sectional microstructure - by extruding billet lubricant-contg. **PTFE**, removing lubricant, stretching and sintering, useful in medical implants.
DERWENT CLASS: A14 A32 A96 D16 J01 P32
INVENTOR(S): HERWECK, S A; KARWOSKI, T; MARTAKOS, P
PATENT ASSIGNEE(S): (ATRI-N) ATRIUM MEDICAL CORP
COUNTRY COUNT: 44
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|--|------|--------------------|------|----|----|
| WO 9318214 | A1 | 19930916 (199338)* | EN | 62 | |
| RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE | | | | | |
| W: AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK LU | | | | | |
| MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US VN | | | | | |
| AU 9339203 | A | 19931005 (199405) | | | |
| EP 630432 | A1 | 19941228 (199505) | EN | | |
| R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| JP 07507014 | W | 19950803 (199539) | | 17 | |
| US 5474824 | A | 19951212 (199604) | | 14 | |
| EP 630432 | A4 | 19950830 (199618) | | | |
| AU 676831 | B | 19970327 (199721) | | | |
| EP 630432 | B1 | 19990714 (199932) | EN | | |
| R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE | | | | | |
| DE 69325649 | E | 19990819 (199939) | | | |
| ES 2133393 | T3 | 19990916 (199946) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|-----------|-------------------|----------|
| WO 9318214 | A1 | WO 1993-US2371 | 19930312 |
| AU 9339203 | A | AU 1993-39203 | 19930312 |
| EP 630432 | A1 | EP 1993-908354 | 19930312 |
| JP 07507014 | W | WO 1993-US2371 | 19930312 |
| | | JP 1993-516054 | 19930312 |
| | | WO 1993-US2371 | 19930312 |
| US 5474824 | A Cont of | US 1992-850862 | 19920313 |
| | | US 1994-268240 | 19940629 |
| | | Searcher : Shears | 308-4994 |

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| | | | |
|-------------|----|----------------|----------|
| EP 630432 | A4 | EP 1993-908354 | |
| AU 676831 | B | AU 1993-39203 | 19930312 |
| EP 630432 | B1 | EP 1993-908354 | 19930312 |
| | | WO 1993-US2371 | 19930312 |
| DE 69325649 | E | DE 1993-625649 | 19930312 |
| | | EP 1993-908354 | 19930312 |
| | | WO 1993-US2371 | 19930312 |
| ES 2133393 | T3 | EP 1993-908354 | 19930312 |

FILING DETAÍLS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------------------|--------------------------|
| AU 9339203 | A Based on | WO 9318214 |
| EP 630432 | A1 Based on | WO 9318214 |
| JP 07507014 | W Based on | WO 9318214 |
| AU 676831 | B Previous Publ. Based on | AU 9339203 WO 9318214 |
| EP 630432 | B1 Based on | WO 9318214 |
| DE 69325649 | E Based on Based on | EP 630432 WO 9318214 |
| ES 2133393 | T3 Based on | EP 630432 |

PRIORITY APPLN. INFO: US 1992-850862 19920313; US 1994-268240
19940629

AN 1993-303517 [38] WPIDS

CR 1995-263194 [34]; 1999-130331 [11]; 2000-037268 [54]

AB WO 9318214 A UPAB: 200000118

Prodn. of a shaped **porous** article comprises: (1) forming a billet of fluoropolymer material, pref. a **PTFE** resin, having a lubricant component that varies along a billet dimension; (2) extruding the billet to form an extruded article having a lubricant component varying in level along a partic. article dimension; (3) removing lubricant and stretching the article to form a **porous** article; and (4) sintering the **porous** article in its stretched state to fix its dimension, with the structure of the sintered **porous** article varying along one dimension.

Also claimed is a vascular prosthesis or implantable article comprising such a **tubular** extruded article.

Pref. the fluoro-polymer is a single-resin fluoro-polymer, pref. **PTFE**, and the article is sintered at the sintering temp. of the fluoro-polymer to sinter the article uniformly. Partic. for the **tube** with biological applications, the fluoro-polymer is a copolymer of TFE and a monomer selected from ethylene, chlorotrifluoroethylene, perfluoroalkoxytetrafluoroethylene and fluorinated propylenes.

USE/ADVANTAGE - The shaped **porous** articles having a homogeneous microstructure along the length but a varying

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microstructure in the cross-section have excellent strength and compression resistance. They are useful in a variety of medical implants and grafts, as filters, and as bioculture reactors.

Dwg.1/8

ABEQ US 5474824 A UPAB: 19960129

An implantable article is formed by a wall of material extending in a thickness dimension from an inner face to an outer face. The wall consists of a single expanded polytetrafluoroethylene (PTFE) material having a microstructure of a number of nodes interconnected by fibrils extending between the nodes, where internode spaces which formed between pairs of adjacent nodes define oriented microchannels for passage of material along it, and microchannels are tapered and extend along the thickness dimension of the wall.

Dwg.6

L33 ANSWER 35 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1993-404751 [50] WPIDS

DOC. NO. NON-CPI: N1993-313359

DOC. NO. CPI: C1993-179779

TITLE: Two-lumen catheter esp. Foley urinary
catheter - has porous sheath to
distribute antibacterial agent expelled from
secondary lumen.

DERWENT CLASS: A96 B07 P34

INVENTOR(S): BODICKY, R O

PATENT ASSIGNEE(S): (SHES) SHERWOOD MEDICAL CO

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|--------------------|------|----|----|
| US 5269755 | A | 19931214 (199350)* | | | 12 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| US 5269755 | A | US 1992-943850 | 19920911 |

PRIORITY APPLN. INFO: US 1992-943850 19920911

AN 1993-404751 [50] WPIDS

AB US 5269755 A UPAB: 19940203

A catheter has a main and a secondary lumen from proximal to distal ends. Fluid introduced into the secondary lumen can be discharged to the exterior at a point along the tube, and a porous member (40) extends along and encircles the tube so that the expelled fluid passes through its pores to

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the exterior. The member is made of expanded PTFE or silicone polymer.

Pref. porous polymer is PTFE having nodules and interconnecting fibrils. The fluid is expelled through holes or slits in the secondary lumen wall, and the number is secured to the tube wall distally of these by adhesive applied to the exterior of tube and member and coming into contact through the pores. The adhesive is e.g. silicone or polyurethane.

ADVANTAGE - Allows antibacterial medicaments to be delivered along the tube outer surface to reduce the occurrence of hospital-acquired urinary tract infections.

Dwg. 2A/7

L33 ANSWER 36 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1993-093303 [11] WPIDS
DOC. NO. NON-CPI: N1993-071460
DOC. NO. CPI: C1993-041218
TITLE: Porous poly tetra fluor ethylene plated with e.g. platinum - obtd. by coating with cation-exchange resin and immersing in platinum-amino complex, alkali-metal boro hydride and chloro platinic acid hexa hydrate with hydrazine hydrochloride solns.
DERWENT CLASS: A14 A35 A85 J03 J04 L03 M13 P73 S03 V04 X12 X16
INVENTOR(S): KATO, H; OHASHI, K; WANI, T
PATENT ASSIGNEE(S): (NIGO) JAPAN GORE TEX INC; (GORE) GORE & ASSOC INC
W L
COUNTRY COUNT: 6
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------------|------|----------|---------------|----|----|
| US 5190813 | A | 19930302 | (199311)* | | 8 |
| EP 579852 | A1 | 19940126 | (199404) # EN | | 8 |
| R: DE FR GB IT SE | | | | | |
| EP 579852 | B1 | 19970702 | (199731) # EN | | 8 |
| R: DE FR GB IT SE | | | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| US 5190813 | A | US 1992-916924 | 19920720 |
| EP 579852 | A1 | EP 1992-112455 | 19920721 |
| EP 579852 | B1 | EP 1992-112455 | 19920721 |

PRIORITY APPLN. INFO: US 1992-916924 19920720
Searcher : Shears 308-4994

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AN 1993-093303 [11] WPIDS

AB US 5190813 A UPAB: 19931112

Porous polytetrafluoroethylene material

comprises: (i) a porous polytetrafluoroethylene substrate; (ii) a cation-exchange resin (I) coated onto the inside pore surface of the substrate; and (iii) at least one layer of Pt metal or Pt alloy bonded to the cation-exchange resin.

(I) is a pref. copolymer of tetrafluoroethylene and sulphonyl fluoride vinyl ether.

USE/ADVANTAGE - Substrate can be in the form of a tube, sheet, yarn or as an insulating layer on an electrical wire or cable. Plating can be both-side or one-side such that both or only one side of the substrate is conductive. Uses include electrodes in electrochemical applications and partic. gas diffusion electrodes.

In an example porous circular, expanded polytetrafluoroethylene film of dia. 50 mm and thickness 40 microns and having a porosity of 80% was subjected to desorption washing by immersion in acetone for 5 mins. Film was then immersed in a soln. of 2 wt.% 'Nafion' (RTM) in alcohol and heated and dried at 100 deg.C for 1 hr. to cause the cation exchange resin to adhere to the porous film. Film was immersed in a methanol soln. and finally in distilled water for 1 hr. to adapt the cation exchange resin making the film hydrophilic; there was no elution of the cation exchange resin. Treated substrate was stored in distilled water and during the plating process the film is kept in a wet state. Plating process comprised the steps of adsorption, reduction and growth

ABEQ EP 579852 B UPAB: 19970731

A porous polytetrafluoroethylene material

comprising: a porous polytetrafluoroethylene substrate, a cation-exchange resin coated on the inside pore surface of the substrate; at least one layer of platinum metal or platinum alloy bonded to the cation-exchange resin.

Dwg.0/2

L33 ANSWER 37 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1993-018104 [02] WPIDS

CROSS REFERENCE: 1995-382379 [49]

DOC. NO. CPI: C1993-008291

TITLE: Surface modified porous expanded

PTFE - having highly hydrophobic surface produced by exposure to radio frequency gas plasma discharge with reactive etching gas.

DERWENT CLASS: A14 A83 A85 A88 A96 D22 F01 J01 P14 P32 P34 P73

INVENTOR(S): ZUKOWSKI, S L; KUZOWSKI, S L

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 17

PATENT INFORMATION:

Searcher : Shears 308-4994

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| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|----------|-----------|----|----|
| WO 9222604 | A1 | 19921223 | (199302)* | EN | 23 |
| RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE | | | | | |
| W: CA DE GB JP | | | | | |
| JP 07500122 | W | 19950105 | (199511) | | 11 |
| EP 646151 | A1 | 19950405 | (199518) | EN | |
| R: DE FR GB IT SE | | | | | |
| US 5437900 | A | 19950801 | (199536) | | 21 |
| EP 646151 | B1 | 19971105 | (199749) | EN | 22 |
| R: DE FR GB IT SE | | | | | |
| DE 69223065 | E | 19971211 | (199804) | | |
| CA 2110499 | C | 19980623 | (199836) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|-----------|-----------------|----------|
| WO 9222604 | A1 | WO 1992-US4812 | 19920608 |
| JP 07500122 | W | WO 1992-US4812 | 19920608 |
| | | JP 1993-500960 | 19920608 |
| EP 646151 | A1 | EP 1992-914071 | 19920608 |
| | | WO 1992-US4812 | 19920608 |
| US 5437900 | A Cont of | US 1991-718324 | 19910614 |
| | | US 1993-161184 | 19931201 |
| EP 646151 | B1 | EP 1992-914071 | 19920608 |
| | | WO 1992-US4812 | 19920608 |
| DE 69223065 | E | DE 1992-623065 | 19920608 |
| | | EP 1992-914071 | 19920608 |
| | | WO 1992-US4812 | 19920608 |
| CA 2110499 | C | CA 1992-2110499 | 19920608 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|------------|
| JP 07500122 | W Based on | WO 9222604 |
| EP 646151 | A1 Based on | WO 9222604 |
| EP 646151 | B1 Based on | WO 9222604 |
| DE 69223065 | E Based on | EP 646151 |
| | Based on | WO 9222604 |

PRIORITY APPLN. INFO: US 1991-718324 19910614; US 1993-161184
19931201

AN 1993-018104 [02] WPIDS

CR 1995-382379 [49]

AB WO 9222604 A UPAB: 19951215

Porous expanded polytetrafluoroethylene (

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PTFE), having a microstructure of nodes interconnected by **fibrils**, comprises a 3-D material having surface(s) with a water droplet roll-off angle (WDRA) of less than 10 degs. on a substantial portion.

Also claimed are: (1) porous expanded **PTFE** having such a microstructure, which comprises a 3-D material having a surface(s) wherein at least a substantial portion comprises freestanding node portions with open valleys between them; and (2) a method of modifying such porous expanded **PTFE** surfaces by exposing them to a radio frequency gas plasma discharge with a reactive etching gas until a WDRA of less than 10 degs. is attained or until the **fibrils** are removed and the surface comprises freestanding node portions with open valleys between them.

USE/ADVANTAGE - Surface etching provides porous expanded **PTFE** material with a highly hydrophobic surface, while extended etching results in complete removal of **fibrils** from the surface. The material can be produced with improved bondability, resistance to fluid penetraton or filtration ability and can be used to make waterproof breathable fabrics and biocompatible medical implant

0/20

Dwg.0/20

ABEQ US 5437900 A UPAB: 19950918

Porous expanded polytetrafluoroethylene having a microstructure of nodes interconnected by **fibrils**. the polytetrafluoroethylene includes a three-dimensional material having at least one surface where at least a substantial portion is comprised of freestanding node portions with open valleys inbetween.

Pref. the polytetrafluoroethylene has a water droplet roll-off cycle of less than 10 deg. and the three dimensional material is in the form of a tubular shape.

USE/ADVANTAGE - Used to make water-proof breathable fabrics, medical implants, blood contact materials, filtering materials. The material has enhanced bondability and hydrophobicity.

Dwg.1/13

ABEQ EP 646151 B UPAB: 19971211

Porous expanded polytetrafluoroethylene having a microstructure of nodes interconnected by **fibrils**, comprising a three dimensional material having surfaces and having a water droplet roll-off angle less than 10 degrees on a substantial portion of at least one surface.

Dwg.0/13

L33 ANSWER 38 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1992-433621 [52] WPIDS

DOC. NO. NON-CPI: N1992-330881

DOC. NO. CPI: C1992-192528

TITLE: Expanded porous **PTFE** materials

Searcher : Shears 308-4994

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useful as waterproof-breathable fabrics - comprises
PTFE polymeric matrix and fluorinated
organic polymer treated with fluorinated organic
polymer.

DERWENT CLASS: A14 A88 D22 F04 P32 Q65
INVENTOR(S): CHUNG, H Y; CHUNG, H
PATENT ASSIGNEE(S): (DOND) DONALDSON CO INC
COUNTRY COUNT: 20
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|--------------------|------|----|----|
| WO 9221715 | A1 | 19921210 (199252)* | EN | 46 | |
| RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE | | | | | |
| W: AU BR CA JP | | | | | |
| AU 9216667 | A | 19930108 (199315) | | | |
| EP 587588 | A1 | 19940323 (199412) | EN | | |
| R: DE FR GB IT SE | | | | | |
| ZA 9203268 | A | 19940525 (199423) | | 47 | |
| BR 9205929 | A | 19940927 (199440) | | | |
| JP 07501347 | W | 19950209 (199515) | | 13 | |
| AU 668087 | B | 19960426 (199624) | | | |
| EP 587588 | B1 | 19980708 (199831) | EN | | |
| R: DE FR GB IT SE | | | | | |
| DE 69226183 | E | 19980813 (199838) | | | |
| US 5869156 | A | 19990209 (199913) | | | |
| US 5972449 | A | 19991026 (199952) | | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|-----------------------|----------------|-----------------|
| WO 9221715 | A1 | WO 1992-US3045 | 19920414 |
| AU 9216667 | A | AU 1992-16667 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| EP 587588 | A1 | EP 1992-909581 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| ZA 9203268 | A | ZA 1992-3268 | 19920506 |
| BR 9205929 | A | BR 1992-5929 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| JP 07501347 | W | JP 1992-508874 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| AU 668087 | B | AU 1992-16667 | 19920414 |
| EP 587588 | B1 | EP 1992-909581 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| DE 69226183 | E | DE 1992-626183 | 19920414 |
| | | EP 1992-909581 | 19920414 |
| | | WO 1992-US3045 | 19920414 |
| US 5869156 | A Cont of Searcher | US 1991-710501 | 19910604 |
| | | : | Shears 308-4994 |

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| | | | | |
|------------|---|---------|----------------|----------|
| US 5972449 | A | Cont of | US 1994-289172 | 19940810 |
| | | Cont of | US 1997-852045 | 19970506 |
| | | Div ex | US 1991-710501 | 19910604 |
| | | | US 1994-289172 | 19940810 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------------------|------------|
| AU 9216667 | A Based on | WO 9221715 |
| EP 587588 | A1 Based on | WO 9221715 |
| BR 9205929 | A Based on | WO 9221715 |
| JP 07501347 | W Based on | WO 9221715 |
| AU 668087 | B Previous Publ. | AU 9216667 |
| | Based on | WO 9221715 |
| EP 587588 | B1 Based on | WO 9221715 |
| DE 69226183 | E Based on | EP 587588 |
| | Based on | WO 9221715 |
| US 5972449 | A Div ex | US 5869156 |

PRIORITY APPLN. INFO: US 1991-710501 19910604; US 1994-289172
19940810; US 1997-852045 19970506; US
1999-246594 19990208

AN 1992-433621 [52] WPIDS

AB WO 9221715 A UPAB: 19950126

Porous (I) material comprises a polymeric matrix of a **PTFE** polymer and an effective filtration efficiency enhancing amt. of a fluorinated organic polymer fluid. Material has a microstructure of nodes interconnected by **fibrils**.

Pref. ultrafine filtration enhance efficiency of the material, increasing the efficiency by a multiple of at least 3; Material is pref. in the shape of a film or a tube having an inside dia. of 1-40 mm and a wall thickness of 0.3-2mm; and may be configured and arranged for use as a vascular graft. Body of the **porous** material has been expanded in at least one direction to a final length which is at least 3 times, pref. at least 5 times, esp. at least 10 times, most pref. at least 20 times, the original length in that direction. Radiation tolerance of the **porous** material is increased by a multiple of at least 3, pref. at least 3, esp. by at least 10.

USE/ADVANTAGE - Useful as waterproof/breathable fabrics e.g. for raincoats and tents; air filters for vehicles and computer disk drives; liq. filters; liq./liq. sepn. membranes; vascular grafts and mechanical seals e.g. for bushings and O-rings. **Porous** materials have enhanced resistance to degradation by radiation, enhanced fine particle filtration efficiency, the ability to delay the passage of isopropanol, and an increased elongation to breakin

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0/3

Dwg. 0/3

L33 ANSWER 39 OF 66 JICST-EPlus COPYRIGHT 2000 JST
ACCESSION NUMBER: 920335410 JICST-EPlus
TITLE: Biological Communication through the Wall of
Synthetic Vascular Grafts and the Endothelialization.
AUTHOR: ISHIMA HIROSHI
SAITO MASARU; Hori MOTOKAZU
YAMADA KYOKO; KATAOKA HIROSHI; WATANABE KOJI
KANEKO NORIAKI
SUZUKI TATSUO; KUTSUKAKE FUJIO
CORPORATE SOURCE: Saga Prefect. Koseikan Hospital
Univ. of Tsukuba, Inst. of Clinical Medicine
Toray Industries, Inc., Basic Res. Lab.
Ube Industries, Ltd.
Nikkiso Co., Ltd.
SOURCE: Myakkangaku (Journal of Japanese College of
Angiology), (1992) vol. 32, no. 3, pp. 203-207.
Journal Code: Z0216B (Fig. 3, Ref. 4)
ISSN: 0387-1126
PUB. COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
LANGUAGE: Japanese
STATUS: New
AB Intimal healing of three kinds of knitted polyester tube
with water porosity of 2000(A,n=6), 1500(B,n=3) and
500(C,n=4), and that of two kinds of ePTFE tube with mean
fibril length of 80.MU.m(D,n=10) and 30.MU.m(E,n=3) were
investigated by macroscopic, microscopic and electron-microscopic
examination about endothelial coverage area(ECA), fibroblasts and
smooth muscle cells proliferation(P), neo-capillaries
development(N), and proliferated endothelium morphology(M). All
grafts that the internal diameter was 5 or 6mm and the length was 4
or 5cm which were implanted in canine carotid regions and they were
removed at the third and sixth postoperative months. The mean ratio
of ECA were A: 66.6%, B: 48.3%, C: 22.2%, D: 59.2% and E: 38.9%. P and N in
the matrix of A and D were much better than that of C and E. M of
proximal site of A,B, and D were resembled to the normal arterial
endothelium. The results suggest that biological communication
through the wall of synthetic grafts may be augmented by increased
water porosity or fibril length and, therefore,
greater biological communication means better intimal healing.
(author abst.)

L33 ANSWER 40 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1991-177883 [24] WPIDS
DOC. NO. NON-CPI: N1991-136264
DOC. NO. CPI: C1991-076761
Searcher : Shears 308-4994

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TITLE: **Catheter for withdrawing or introducing fluids etc., to body - with a tubular portion of low density porous PTFE.**

DERWENT CLASS: A96 B07 P34

INVENTOR(S): MYERS, D J

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 15

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|--|----------|-----------|----|----|
| WO 9107203 | A | 19910530 | (199124)* | | |
| RW: | AT BE CH DE DK ES FR GB GR IT LU NL SE | | | | |
| W: | CA JP | | | | |

PRIORITY APPLN.-INFO.: US 1989-440574 19891122

AN 1991-177883 [24] WPIDS

AB WO 9107203 A UPAB: 19930928

Catheter has a tubular portion (1) consisting of porous PTFE having a density less than 1.6 gms/cc..

Tubular portion (1) is of porous expanded PTFE having a mean fibril length less than 1 micron, and density less than 1.3 gm/cc; has a connector (2) at one end and a tip portion (3) of greater or less density and/or fibril length than the remainder of the tubular portion to provide the tip portion with a greater or lower rigidity. The tubular portion may contain a shadow forming agent.

USE/ADVANTAGE - Withdrawing or introducing fluid or other medical devices from or into cavities of the body. Porous PTFE tube is of adequate rigidity for insertion and use as a catheter while having good flexibility to avoid kinking during bending. It is permeable to gases but hydrophobic and resistant to cellular ingrowth.

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L33 ANSWER 41 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1990-361441 [48] WPIDS

DOC. NO. CPI: C1990-157077

TITLE: Multilayer, porous, composite

membrane of expanded EPTFE - coated with per fluoro ion exchange polymer and used in electrolytic cells and as filtering medium.

DERWENT CLASS: A85 E36 J03 P73

INVENTOR(S): BRANCA, P A; HUBIS, D E; MALLOUK, R S; PERRY, R L;
PERRRY, R L

PATENT ASSIGNEE(S): (DUPO) DU PONT DE NEMOURS & CO E I; (GORE) GORE &
Searcher : Shears 308-4994

09/510937

ASSOC INC W L; (BRAN-I) BRANCA P A

COUNTRY COUNT: 17

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|-------------------------------------|-----------|----|----|
| WO 9013593 | A | 19901115 | (199048)* | | |
| | RW: | AT BE CH DE DK ES FR GB IT LU NL SE | | | |
| | W: | AU BR CA JP | | | |
| AU 9056437 | A | 19901129 | (199109) | | |
| EP 470186 | A | 19920212 | (199207) | | |
| | R: | DE FR GB IT SE | | | |
| US 5094895 | A | 19920310 | (199213) | 19 | |
| BR 9007328 | A | 19920421 | (199231) | | |
| JP 04507112 | W | 19921210 | (199304) | 20 | |
| US 5183545 | A | 19930202 | (199308) | 20 | |
| JP 07103251 | B2 | 19951108 | (199549) | 21 | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|----------|----------------|----------|
| EP 470186 | A | EP 1990-907863 | 19900427 |
| US 5094895 | A | US 1990-511110 | 19900419 |
| BR 9007328 | A | BR 1990-7328 | 19900427 |
| | | WO 1990-US2349 | 19900427 |
| JP 04507112 | W | JP 1990-507545 | 19900427 |
| | | WO 1990-US2349 | 19900427 |
| US 5183545 | A CIP of | US 1989-344707 | 19890428 |
| | Div ex | US 1990-511110 | 19900419 |
| | | US 1991-792665 | 19911115 |
| JP 07103251 | B2 | JP 1990-507545 | 19900427 |
| | | WO 1990-US2349 | 19900427 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|-------------|
| BR 9007328 | A Based on | WO 9013593 |
| JP 04507112 | W Based on | WO 9013593 |
| US 5183545 | A Div ex | US 5094895 |
| JP 07103251 | B2 Based on | JP 04507112 |
| | Based on | WO 9013593 |

PRIORITY APPLN. INFO: US 1989-344707 19890428; US 1990-511110
19900419

AN 1990-361441 [48] WPIDS

AB WO 9013593 A UPAB: 19930928

A multilayer, porous, composite shaped article

Searcher : Shears 308-4994

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(pref. a sheet 0.25 pref. 0.76-5.0mm thick, or a tube 0.25 mm thick) comprising a multiple layers of porous expanded - PTFE bonded together, has at least a portion (pref. all) of its exterior and interior pore surfaces coated with a perfluoro ion exchange polymer (excluding 2 wt. % of the composite and pref. perfluoro-sulphonic-carboxylic, mixt. or copolymer, thereof with equiv. wt. less than 1000), with the ratio of TFE - functional comonomer of 1.5:1-5.6:1. The composite article may contain a water soluble surfactant within its pores to assist in initial water penetration.

USE/ADVANTAGE - The liq. permeable composite article is used as a diaphragm in electrolysis cells for the prodn. of halogen and alkali metal hydroxide from an aq. alkali metal halide soln. or as a filtering medium. The multilayer EPTFE diaphragms yield an exceptional level of uniformity such that they operate at cell voltages and current efficiencies significantly better than those of prior art. The perfluoro ion exchange coating provides a level of hydrophilicity that prevents gas locking and leads to sustained operation at high current efficiency and low voltage. @

0/4

ABEQ JP 04507112 W UPAB: 19930928

A multilayer, porous, composite shaped article (pref. a sheet 0.25 pref. 0.76-5.0mm thick, or a tube 0.25 mm thick) comprising multiple layers of porous expanded - PTFE bonded together, has at least a portion (pref. all) of its exterior and interior pore surfaces coated with a perfluoro ion exchange polymer (excluding 2 wt.% of composite and pref. perfluoro-sulphonic-carboxylic, mixt. or copolymer, thereof with equiv. wt. less than 1000), with the ratio of TFE - functional comonomer of 1.5:1-5.6:1. The composite article may contain a water soluble surfactant within its pores to assist in initial water penetration.

USE/ADVANTAGE - Used as a diaphragm in electrolysis cells for the prodn. of halogen and alkali metal hydroxide from JP4507112A - W an aq. alkali metal halide soln. or as a filtering medium. The multilayer EPTFE diaphragms yield such uniformity that they operate at cell voltages and current efficiencies significantly better than those of prior art. The perfluoro ion exchange coating provides a level of hydrophilicity that prevents gas locking and leads to sustained operation at high current efficiency and low voltage

ABEQ US 5094895 A UPAB: 19930928

A multilayer, porous, composite, shaped article comprising multiple layers of porous, expanded polytetrafluoroethylene (EPTFE) bonded together is new. The article has at least a portion of its exterior surfaces and at least a portion (pref. substantially all) of its interior pore surfaces coated with a perfluoro ion exchange polymer (pref. a

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perfluorosulphonic acid or perfluorocarboxylic acid polymer of equivalent wt. less than 100). The article has open, continuous channels therethrough which permit flow of fluids through it.

USE/ADVANTAGE - The composite article is useful as a diaphragm for electrolysis or as a filtering medium.

ABEQ US 5183545 A UPAB: 19930928

The diaphragm (DM) sepg. the anode and cathode compartments in an electrolytic cell consists of several **layers of porous, expanded PTFE layers** bonded together. At least a portion of the exterior surfaces and of the interior pore surfaces of the DM is coated with a perfluoro ion exchange resin, pref. a homopolymer of perfluorosulphonic acid or perfluorocarboxylic acid or a copolymer of these acids, each polymer having an equiv. wt. below 1,000.

Pref., at least 2 **layers** of the DM have specific gravity differing by at least 5%, esp. by at least 10% and the **layer** with the higher specific gravity faces the cathode.

Pref. a number of composite DM are used to separate the components. The DM contains a surfactant in its pores.

USE/ADVANTAGE - For the prodn. of H₂ and alkali metal hydroxide from an aq. soln. of an alkali metal halide. A very uniform DM is provided allowing the cell to operate at better voltages and current efficiencies than known ones. The DM can also be used as highly effective filter material

0/5

L33 ANSWER 42 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1990-209636 [27] WPIDS

DOC. NO. NON-CPI: N1990-162925

DOC. NO. CPI: C1990-090556

TITLE: Heat catheter used to form blood vessel
shadows - comprising non-porous
PTFE tube with tip portion of
porous PTFE.

DERWENT CLASS: A14 A96 B07 P34

INVENTOR(S): HAMAZAKI, S; MOTODA, A

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L; (NIGO) JAPAN GORE TEX
INC

COUNTRY COUNT: 13

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|----------------------------------|----------|-----------|----|----|
| WO 9006150 | A | 19900614 | (199027)* | | |
| RW: | AT BE CH DE ES FR GB IT LI NL SE | | | | |
| W: | AU | | | | |
| JP 02142576 | A | 19900531 | (199028) | | |
| AU 8946617 | A | 19900626 | (199038) | | |

Searcher : Shears 308-4994

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PRIORITY APPLN. INFO: JP 1988-293654 19881125

AN 1990-209636 [27] WPIDS

AB WO 9006150 A UPAB: 19941115

Catheter has a tube (1) of non-porous

PTFE with an integrally connected tip (2) of porous

PTFE. The fibril length of the porous

section can be less than 20 microns and pref. less than 5. A shadow forming agent can be provided. The porous catheter part can be formed by heating and expanding and/or sintering a nonporous PTFE tube or by shielding a portion of a porous tube and heating the rest to make it non-porous.

USE/ADVANTAGE - Heart catheter used to form blood vessel shadows, to measure blood flow and extract fluids. The porous tip is more flexible and less likely to damage the blood vessels. @ (11pp Dwg. No. 1/4) @

1/4

L33 ANSWER 43 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1990-297347 [39] WPIDS

DOC. NO. NON-CPI: N1990-228584

DOC. NO. CPI: C1990-128455

TITLE: Longitudinally compliant vascular graft - comprises porous PTFE tube

longitudinally compressed and coated with a biocompatible elastomer.

DERWENT CLASS: A14 A32 A96 D22 P32

INVENTOR(S): COLONE, W M; DELLACORNA, L V; FARNAN, R C; KOWLIGI, R R; DELLA, CORNA L V

PATENT ASSIGNEE(S): (IMPR-N) IMPRA INC; (CORN-I) DELLA CORNA L V

COUNTRY COUNT: 15

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|----------|-----------|----|----|
| US 4955899 | A | 19900911 | (199039)* | | |
| WO 9014055 | A | 19901129 | (199050) | | |
| RW: AT BE CH DE DK ES FR GB IT LU NL SE | | | | | |
| W: CH DE ES GB JP | | | | | |
| EP 473727 | A | 19920311 | (199211) | 28 | |
| R: CH DE ES FR GB IT LU | | | | | |
| JP 05509236 | W | 19931222 | (199405) | 8 | |
| EP 473727 | A4 | 19920520 | (199522) | | |
| EP 473727 | B1 | 19951220 | (199604) | EN | 16 |
| R: CH DE ES FR GB IT LI | | | | | |
| DE 69024351 | E | 19960201 | (199610) | | |

Searcher : Shears 308-4994

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APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| US 4955899 | A | US 1989-358787 | 19890526 |
| EP 473727 | A | EP 1990-909982 | 19900525 |
| JP 05509236 | W | JP 1990-509216 | 19900525 |
| | | WO 1990-US2970 | 19900525 |
| EP 473727 | A4 | EP 1990-909982 | |
| EP 473727 | B1 | EP 1990-909982 | 19900525 |
| | | WO 1990-US2970 | 19900525 |
| DE 69024351 | E | DE 1990-624351 | 19900525 |
| | | EP 1990-909982 | 19900525 |
| | | WO 1990-US2970 | 19900525 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|------|---------------------|
| JP 05509236 | W | Based on WO 9014055 |
| EP 473727 | B1 | Based on WO 9014055 |
| DE 69024351 | E | Based on EP 473727 |
| | | Based on WO 9014055 |

PRIORITY APPLN. INFO: US 1989-358787 19890526

AN 1990-297347 [39] WPIDS

AB US 4955899 A UPAB: 19950524

Longitudinally compliant vascular graft is a length of porous PTFE tafing of which at least a portion has been compressed along a longitudinal axis and provided with a coating of biocompatible plastic, at least along the compressed portion. The elastomer can be non-porous and can be silicone-rubber, segmented polyurethane, polyurethane-urea or silicone-polyurethane copolymers. The tafing is pref. compressed by pulling it over a cylindrical mandrel of like dia. an applying a compression force along its longitudinal axis.

ADVANTAGE - The graft allows stretching the longitudinally and minimising suture hole heeding at the ends of the graft. The stretchability makes sizing of the graft less critical and permits greater freedom of movement. @ (11pp Dwg.No.3/11)@

3/11

ABEQ EP 473727 B UPAB: 19960129

A longitudinally compliant vascular graft (20) comprising a length of porous PTFE tubing (32) having a micro-structure with nodes interconnected by fibrils, and porous PTFE tubing being adapted to be stretched along a central longitudinal axis (22) of the PTFE tubing and including an outer cylindrical wall coated with a biocompatible elastomer characterised in that at least a portion of

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the PTFE tubing has been compressed along the central longitudinal axis (22) thereof following the prodn. of the PTFE tubing and the elastomer coating has been applied at least over the compressed portions of the graft in their compressed state, the compressed portion of the PTFE tubing coated by the biocompatible elastomer being adapted to be stretched along the central longitudinal axis (22) of the PTFE tubing.

Dwg.1/11

L33 ANSWER 44 OF 66 MEDLINE

ACCESSION NUMBER: 90299698 MEDLINE

DOCUMENT NUMBER: 90299698

TITLE: O2 transfer kinetics in a whole blood unicellular thin layer.

AUTHOR: Heidelberger E; Reeves R B

CORPORATE SOURCE: Department of Physiology, School of Medicine, State University of New York, Buffalo 14214.

CONTRACT NUMBER: P01-HL-28542 (NHLBI)

SOURCE: JOURNAL OF APPLIED PHYSIOLOGY, (1990 May) 68 (5) 1854-64.

Journal code: HEG. ISSN: 8750-7587.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199010

AB A planar monocellular layer of whole blood (WB) sandwiched between two Gore-Tex membranes is used to study O2 uptake and release kinetics at 37 degrees C. Gore-Tex, a highly gas-permeable open mesh of Teflon fibrils (78% porosity, 0.2-microns pore size, 75-microns thick), constrains WB to form a thin film without imposing an appreciable gas diffusion barrier. WB layer thickness, measured by isotope dilution, is 1.7 +/- 0.2 microns. WB films are mounted between fiber optics in a gas flow tube for dual-wavelength (536/558 nm) oxyhemoglobin saturation measurements after a step change in PO2. For isocapnic (6% CO2) step changes in PO2 between 0 and 104 Torr, WB O2 uptake half time is 10.4 +/- 0.9 ms; WB O2 release half time is 20.6 +/- 2.4 ms. Half-time values are half of those previously reported. The thin-layer method reduces erythrocyte diffusion boundary layer error and thereby offers an attractive alternative to classical rapid fluid-mixing techniques.

L33 ANSWER 45 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1990-006967 [01] WPIDS

CROSS REFERENCE: 1988-154435 [22]

DOC. NO. CPI: C1990-002944

TITLE: Extrusion and expansion of PTFE

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tubing - using reciprocating ram to force material between helically grooved die and mandrel.

DERWENT CLASS: A14 A32 D22

INVENTOR(S): BIGGERSTAF, C E; CAMPBELL, M L; RIFFLE, R G;
WILLIAMS, B G

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|--------------------|------|----|----|
| US 4876051 | A | 19891024 (199001)* | | | 12 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|----------------|----------|
| US 4876051 | A | US 1987-134045 | 19871217 |

PRIORITY APPLN. INFO: US 1986-930411 19861113; US 1987-134045
19871217

AN 1990-006967 [01] WPIDS

CR 1988-154435 [22]

AB US 4876051 A UPAB: 19950404

Preformed billet of a mixt. of a coagulated dispersion of PTFE and liq. lubricant is extruded through a hollow cylindrical barrel contg. a mandrel by a ram to a die having a tip of the mandrel positioned concentrically therein, with at least one of the confronting surfaces of the die and tip being provided with a helical groove. The unsintered tubing exiting the die and having at least one helical groove on its surface, has lubricant removed from its surface and is expanded by longitudinal stretching at a temp. between 35 deg.C, and the crystalline melting point of the PTFE.

USE/ADVANTAGE - In prodn. of PTFE tubing, partic. for use in the medical field. Provides a tube of highly crystalline PTFE with a microstructure having elongate nodes interconnected by fine fibrils with the node longitudinal axes at 15 to 80 deg. to the longitudinal axes of the tube providing a high strength.

0/10

Dwg. 0/10

ABEQ DE 3778831 G UPAB: 19930928

Extruded and expanded porous tube consisting essentially of polytetrafluoroethylene (PTFE) has a microstructure characterised by elongated nodes interconnected by fine fibrils. Each node has a longitudinal and transverse axis. Substantially all of the longitudinal axes are

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oriented between 85 and 15 deg. with respect to the longitudinal axis of the tube at at least one radial position.

USE/ADVANTAGE - Tube of invention is partic. suitable for use in the medical field, e.g. as artificial vascular graft. Tube has increased strength compared to conventionally extruded and expanded tubes because of the orientation of the nodes in its microstructure produced as a result of the orientation of the nodes in its microstructure produced as a result of helically oriented grooves in the extrusion tip and/or extrusion die.

L33 ANSWER 46 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1989-081693 [11] WPIDS

DOC. NO. CPI: C1989-036363

TITLE: Heated tubular filter element - comprises filter membrane with porous support on both sides and end caps sealed with reinforced ends.

DERWENT CLASS: A18 A88 J01

PATENT ASSIGNEE(S): (KURB) KURABO IND LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| JP 01034403 | A | 19890203 | (198911)* | | 7 |
| JP 2507456 | B2 | 19960612 | (199628) | | 5 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|----------------|----------|
| JP 01034403 | A | JP 1987-189859 | 19870728 |
| JP 2507456 | B2 | JP 1987-189859 | 19870728 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------------|-------------|
| JP 2507456 | B2 Previous Publ. | JP 01034403 |

PRIORITY APPLN. INFO: JP 1987-189859 19870728

AN 1989-081693 [11] WPIDS

AB JP 01034403 A UPAB: 19970502

Pleated tubular filter element comprises a membrane filter with porous support on both sides of the membrane, and end-caps, which are sealed tightly on both ends of the membrane filter. Both ends are reinforced with thermoplastic reinforcing material by binding on at least one side. The membrane filter is

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pref. made from PTFE or polyvinylidene fluoride. The thickness of the membrane filter is pref. 30-200 microns. The thermoplastic reinforcing material is pref. made from PP or PF. The thermoplastic reinforcing material is pref. film, net or nonwoven fabric, pref. in the form of a ribbon or tape having 5-100 microns thickness. The reinforcing material has 1-20 mm width. The porous supporting material is pref. net, woven fabric or nonwoven fabric and is made from PP or PE.

USE/ADVANTAGE - The filter element is used for precision filtration.

In an example, PP film (40 microns thickness, 5 mm width) is laminated with both ends of PTFE membrane filter (60 microns thickness, 245 mm width and 360 cm length). Nonwoven fabric made from PP (0.2 mm thickness, 40 g/m²) is layered on both sides of the membrane filter, as a sandwich, and pleated 150 times. The both ends of the pleat-sheet is sealed with an impulse sealer to form a tube. The tubular pleated-sheet is set between a porous cylindrical core made from PP (41 mm outer dia., 34 mm inner dia., 245 mm length) and a porous cylinder made from PP (70 mm outer dia., 66 mm inner dia., 245 mm length), and the ends of these are sealed with end caps made from pp with melted PP.

Dwg. 0/8

L33 ANSWER 47 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1989-124114 [17] WPIDS

DOC. NO. CPI: C1989-055009

TITLE: Rapid recoverable porous poly
tetra fluoroethylene - has
microstructure of nodes interconnected by
fibrils.

DERWENT CLASS: A14 A35

INVENTOR(S): HOUSE, W; MYERS, D J; HOUSE, W D

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 11

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|--------------------|------|----|----|
| EP 313263 | A | 19890426 (198917)* | EN | 14 | |
| AU 8822922 | A | 19890420 (198923) | | | |
| NO 8804629 | A | 19890516 (198925) | | | |
| DK 8805817 | A | 19890420 (198926) | | | |
| GB 2211190 | A | 19890628 (198926) | | | |
| FI 8804830 | A | 19890420 (198931) | | | |
| PT 88796 | A | 19890731 (198935) | | | |
| US 4877661 | A | 19891031 (199002) | | 10 | |

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| | | | |
|-------------|----|----------|----------------|
| JP 02000645 | A | 19900105 | (199007) |
| CN 1034889 | A | 19890823 | (199027) |
| US 5026513 | A | 19910625 | (199128) |
| EP 313263 | B1 | 19930324 | (199312) EN 21 |
| DE 3879613 | G | 19930429 | (199318) |
| CA 1318093 | C | 19930525 | (199326) |
| US 5308664 | A | 19940503 | (199417) 12 |
| JP 2547243 | B2 | 19961023 | (199647) 8 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|----------|-----------------|----------|
| EP 313263 | A | EP 1988-309542 | 19881012 |
| GB 2211190 | A | GB 1988-23934 | 19881012 |
| US 4877661 | A | US 1987-110145 | 19871019 |
| JP 02000645 | A | JP 1988-260731 | 19881018 |
| US 5026513 | A | US 1989-355236 | 19890522 |
| EP 313263 | B1 | EP 1988-309542 | 19881012 |
| DE 3879613 | G | DE 1988-3879613 | 19881012 |
| | | EP 1988-309542 | 19881012 |
| CA 1318093 | C | CA 1988-580425 | 19881018 |
| US 5308664 | A CIP of | US 1987-110145 | 19871019 |
| | | US 1988-248887 | 19880923 |
| JP 2547243 | B2 | JP 1988-260731 | 19881018 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|------------|-------------------|-------------|
| DE 3879613 | G Based on | EP 313263 |
| US 5308664 | A CIP of | US 4877661 |
| JP 2547243 | B2 Previous Publ. | JP 02000645 |

PRIORITY APPLN. INFO: US 1987-110145 19871019; US 1988-248887
19880923

AN 1989-124114 [17] WPIDS

AB EP 313263 A UPAB: 19930923

A porous shaped article consisting essentially of polytetrafluoroethylene (PTFE) has a microstructure of nodes interconnected by fibrils pref. all of which have a bent appearance, pref. with a V/H ratio of at least 0.15 and has a rapid recovery of more than about 5.5NoAbstract.

An extruded, expanded article, heat treated above its crystalline m.pt., is made of a material consisting of PTFE, the porous PTFE having been subsequently compressed at least 50NoAbstract (pref. at least 60NoAbstract, or 75NoAbstract, or 90NoAbstract) in the direction rapid recoverable

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characteristics are desired, restrained and heated.

Making rapidly recoverable PTFE material comprises extruding a preformed billet of a mixt. of coagulated dispersion of PTFE and liq. lubricant, expanding said material, after removal of liq. lubricant, by stretching it longitudinally and maintaining it at between 35 deg.C and the crystalline m.pt. during stretching, compressing the extruded and expanded PTFE in the direction of fibrils to reduce its size, restraining said PTFE in its compressed state, and opt. heating said compressed PTFE (pref. to above its crystalline m.pt.).

ADVANTAGE - These PTFE tubes have improved bending characteristics over previous porous PTFE tubes, and improved resistance to kinking, constriction or collapse under flexure. They are partic. suitable for use in the medical field, but are also useful in other areas such as filtration and fabric applications.

0/13

ABEQ EP 313263 B UPAB: 19930923

A porous shaped article consisting essentially of polytetrafluoroethylene (PTFE), said article having a microstructure of nodes interconnected by fibrils, characterised in that said article is capable of being stretched and then rapidly recovering more than about 5.5% of its stretched length.

0/13

ABEQ US 4877661 A UPAB: 19930923

Porous shaped article mainly comprises PTFE, and has a microstructure of nodes interconnected by fibrils. Article can be stretched then rapidly recovers more than 6% of its stretched length.

Pref. all the fibrils have a bent appearance. Article is tube shaped having smooth inside and outside surfaces, which can be slit longitudinally and opened to form a sheet. Opt. article comprises a rod, film, or filament, and can have corrugated surfaces.

USE - As vascular grafts or as filters or fabrics.

ABEQ US 5026513 A UPAB: 19930923

A process for making rapid recoverable polytetrafluoroethylene (PTFE) material with a microstructure of nodes and fibrils is new. The process comprises of 5 stages (a)-(e). (a) is extruding a preformed billet of a mixture of coagulated dispersion of PTFE and liquid lubricant. (b) is expanding PTFE after removal of liquid lubricant by stretching it longitudinally and maintaining it at a temp. of 35 deg.C. and the crystalline melt pt. during stretching. (c) is compressing extruded and expanded PTFE in the direction of the fibrils to reduce its size. (d) is restraining PTFE in its compressed state. (e) is heating compressed PTFE.

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USE/ADVANTAGE - Articles made from these materials are esp. suitable for use in medical fields as well as filtration and fabric applications.

ABEQ US 5308664 A UPAB: 19940613

A porous shaped PTFE article has a microstructure of nodes interconnected by fibrils. All the fibrils are bent and have a vertical displacement:internodal distance ratio of at least 0.15, pref. at least 2.0. At ambient temp. the article can rapidly recover after stretching more than 6.0% of its stretched length.

The article is made e.g. by compressing a PTFE article, which has been expanded by stretching and heated to above its m.pt. parallel to but opposite the stretching direction, then restraining the article and heating to above the crystalline m.pt., allowing to cool, removing the restraint and restretching in the direction of original stretch to the original length.

USE/ADVANTAGE - Used as replacement blood vessels, patches, sutures or ligaments or as a filter or in waterproof clothing. The method provides improved properties.

Dwg.2/13

L33 ANSWER 48 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1988-154435 [22] WPIDS

CROSS REFERENCE: 1990-006967 [01]

TITLE: Extruded and expanded poly tetra
fluoroethylene tubing - in which
fibril interconnected nodes have defined
orientations for greater strength.

DERWENT CLASS: A14 A96 D22 P32 Q67

INVENTOR(S): BIGGERSTAFF, C E; CAMPBELL, M L; RIFFLE, R G;
WILLIAMS, B G; BIGGERSTAF, C E

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 20

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|------|----------|-----------|----|----|
| ----- | | | | | |
| US 4743480 | A | 19880510 | (198822)* | | 11 |
| GB 2197870 | A | 19880602 | (198822) | | |
| AU 8774176 | A | 19880519 | (198828) | | |
| JP 63139926 | A | 19880611 | (198829) | | |
| EP 267719 | A | 19880518 | (198830) | EN | |
| R: AT BE CH DE ES FR GB GR IT LI LU NL SE | | | | | |
| DK 8705900 | A | 19880514 | (198912) | | |
| AU 9056829 | A | 19900927 | (199046) | | |
| EP 267719 | B | 19920506 | (199219) | EN | 21 |
| R: AT BE CH DE ES FR GB GR IT LI LU NL SE | | | | | |
| DE 3778831 | G | 19920611 | (199225) | | |
| CA 1311590 | C | 19921222 | (199305) | | |

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JP 07015022 B2 19950222 (199512)

11

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|-----------------|----------|
| US 4743480 | A | US 1986-930411 | 19861113 |
| GB 2197870 | A | GB 1987-25612 | 19871102 |
| JP 63139926 | A | JP 1987-198364 | 19870810 |
| EP 267719 | A | EP 1987-309673 | 19871102 |
| EP 267719 | B | EP 1987-309673 | 19871102 |
| DE 3778831 | G | DE 1987-3778831 | 19871102 |
| | | EP 1987-309673 | 19871102 |
| CA 1311590 | C | CA 1987-547153 | 19870917 |
| JP 07015022 | B2 | JP 1987-198364 | 19870810 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|-------------|
| DE 3778831 | G Based on | EP 267719 |
| JP 07015022 | B2 Based on | JP 63139926 |

PRIORITY APPLN. INFO: US 1986-930411 19861113; US 1987-134045
19871217

AN 1988-154435 [22] WPIDS

CR 1990-006967 [01]

AB US 4743480 A UPAB: 19950404

Extruded and expanded porous tube consisting
essentially of polytetrafluoroethylene (PTFE)
has a microstructure characterised by elongated nodes interconnected
by fine fibrils. Each node has a longitudinal and
transverse axis. Substantially all of the longitudinal axes are
oriented between 85 and 15 deg. with respect to the longitudinal
axis of the tube at at least one radial position.

USE/ADVANTAGE - Tube of invention is partic. suitable
for use in the medical field, e.g. as artificial vascular graft.
Tube has increased strength compared to conventionally
extruded and expanded tubes because of the orientation of
the nodes in its microstructure produced as a result of the
orientation of the nodes in its microstructure produced as a result
of helically oriented grooves in the extrusion tip and/or extrusion
die.

0/9

Dwg.0/9

ABEQ DE 3778831 G UPAB: 19930923

Extruded and expanded porous tube consisting
essentially of polytetrafluoroethylene (PTFE)
has a microstructure characterised by elongated nodes interconnected

Searcher : Shears 308-4994

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by fine fibrils. Each node has a longitudinal and transverse axis. Substantially all of the longitudinal axes are oriented between 85 and 15 deg. with respect to the longitudinal axis of the tube at at least one radial position.

USE/ADVANTAGE - Tube of invention is partic. suitable for use in the medical field, e.g. as artificial vascular graft. Tube has increased strength compared to conventionally extruded and expanded tubes because of the orientation of the nodes in its microstructure produced as a result of the orientation of the nodes in its microstructure produced as a result of helically oriented grooves in the extrusion tip and/or extrusion die.

ABEQ EP 267719 B UPAB: 19930923

An extruded and expanded tube of a porous material consisting essentially of polytetrafluoroethylene (PTFE) said tube having a longitudinal axis and tube wall which PTFE material has a microstructure consisting of elongated nodes, each node having a longitudinal axis and a transverse axis, which nodes are interconnected by fine fibrils, characterised by substantially all of the longitudinal axes of said nodes at at least one radial position within said tube wall being oriented at an angle between 85 degrees and 15 degrees with respect to said longitudinal axis of said tube.

L33 ANSWER 49 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1988-287878 [41] WPIDS

DOC. NO. NON-CPI: N1988-218459

DOC. NO. CPI: C1988-127711

TITLE: Vitreous body prosthesis - is thin-walled inflatable balloon with tube to control degrée of inflation.

DERWENT CLASS: A96 D22 'P32 P34

PATENT ASSIGNEE(S): (JOSE-I) JOSEPH N H

COUNTRY COUNT: 3

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| GB 2203048 | A | 19881012 | (198841)* | | 16 |
| DE 3809820 | A | 19881103 | (198845) | | |
| US 4902292 | A | 19900220 | (199014) | | 7 |
| GB 2203048 | B | 19901205 | (199049) | | |
| DE 3809820 | C | 19920213 | (199207) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|-------------|----------|
| Searcher | : | Shears | 308-4994 |

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| | | | |
|------------|---|-----------------|----------|
| GB 2203048 | A | GB 1988-6924 | 19880323 |
| DE 3809820 | A | DE 1988-3809820 | 19880323 |
| US 4902292 | A | US 1988-167352 | 19880314 |

PRIORITY APPLN. INFO: GB 1987-7503 19870330; GB 1988-6924
 19880323

AN 1988-287878 [41] WPIDS

AB GB 2203048 A UPAB: 19930923

A prosthesis comprises a **thin-walled** inflatable **balloon** of biocompatible material which can be stabilised and fixed within an eye, and a **tube** communicating with the **balloon** for introducing or removing fluid to control the degree of inflation. **Balloon** and **tube** are pref. of silicone rubber.

The **balloon** pref. has an inflated diameter of 24 mm and a thin elastic posterior part for apposition to the retina and with a thickness of 0.06 mm. The **balloon** pref. has a reinforced anterior part 0.5 mm thick and supporting a polymethylmethacrylate or silicone rubber lens with indentations to facilitate manipulation by instruments.

ADVANTAGE - Can perform the retinal hole closing functions of the vitreous body after this has been removed during retinal reattachment surgery.

0/2

ABEQ DE 3809820 C UPAB: 19930923

A prosthetic eye glass arrangement includes a **thin walled**, expandable **balloon** made of a biocompatible material, and a material for stabilising and fixing the **balloon** inside the eye. A bio-compatible material **tube** is connected to the inside of the **balloon**, so that liq. can be supplied or removed. The **balloon** inflation can be controlled. The lens section pref. consists of polymethyl methacrylate or silicone rubber.

ADVANTAGE - The arrangement closes off retina openings and is safe and reliable.

ABEQ GB 2203048 B UPAB: 19930923

A vitreous body prosthesis device comprising a **thin-walled** inflatable **balloon** made of bio-compatible material, means for stabilising and fixing the **balloon** within an eye, an inflow **tube** made of bio-compatible material and in fluid-tight communication with the interior of the **balloon**, and means for introducing fluid into the inflow **tube**, or for removing fluid from the inflow **tube**, whereby the degree of inflation of the **balloon** can be controlled.

ABEQ US 4902292 A UPAB: 19930923

A vitreous body prosthesis comprises a **thin-walled** inflatable spherical **balloon** (14) with posterior part for

Searcher : Shears 308-4994

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apposition to the retina and securable in the vitreous cavity of the eye. The balloon can be inflated controllably via a tube (17), pref. connected to an extra-orbital s.c. thick-walled silicone rubber injection bulb (19).

Balloon and tube are pref. of silicone rubber, and the balloon anterior part is thicker, is reinforced with embedded tubular elements, fibres or porous materials such as open-cell silicone rubber foam, expanded PTFE foam or inert woven or nonwoven material. The anterior part pref. supports a silicone rubber or polymethylmethacrylate lens (12).

ADVANTAGE - Can carry out the retinal hole closing functions of an ocular vitreous body after this has been removed during retinal re-attachment surgery.

L33 ANSWER 50 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1988-015429 [03] WPIDS

DOC. NO. NON-CPI: N1988-011566

DOC. NO. CPI: C1988-006656

TITLE: Endoscope disinfection - facilitated by porous inner guide tube and outer closed-cell guide tube.

DERWENT CLASS: A96 P31

INVENTOR(S): AOSHIRO, H

PATENT ASSIGNEE(S): (MACH-N) MACHIDA SEISAKUSHO KK

COUNTRY COUNT: 3

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| DE 3722116 | A | 19880114 | (198803)* | | 13 |
| US 4771766 | A | 19880920 | (198840) | | 12 |
| JP 63015935 | A | 19880123 | (199024) | | |
| JP 63054143 | A | 19880308 | (199024) | | |
| DE 3722116 | C | 19910411 | (199115) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| DE 3722116 | A | DE 1987-3722116 | 19870703 |
| US 4771766 | A | US 1987-64224 | 19870619 |

PRIORITY APPLN. INFO: JP 1986-158843 19860708; JP 1986-197393
19860825

AN 1988-015429 [03] WPIDS

AB DE 3722116 A UPAB: 19930923

Endoscope includes a guide tube assembly which must have a
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low coefficient of friction so that the instruments are easy to insert and to extract. It includes an inner tube which is made of a porous resin, pref. PTFE and communicates at one end with a proximal opening and at its other end with the distal opening. The outer tubes is made of a closed-cell resin, or of thin-walled rubber. The hollow space in the inner tube is connected through the pores in the wall to the annulus. A fluid can be passed to this annulus through an opening in the proximal component.

ADVANTAGE - This makes it possible to disinfect and to wash the inner tube reliably and actively.

0/8

ABEQ DE 3722116 C UPAB: 19930923

The endoscope has a proximal portion with control (10) and opening (27a), and from which an oblong inserted portion (11) extends to the distal end (13), also with an opening (13a').

A guide tube assembly (20) passes through the inserted portion and has an inner tube (21) of porous resin connected between the openings, also an outer one (22) enclosing the inner one and of impermeable resin. A portion (21a) of the inner tube is connected by its pores to the annular space (23) between it and the outer tube.

Inlet and outlet ports (31a) in the proximal portion and the distal end of the inserted portion lead to the annular chamber, and a fluid can be passed through them.

ADVANTAGE - Allows safe disinfection and washing of inner tube.

ABEQ US 4771766 A UPAB: 19930923

An endoscope comprises a proximal body with an opening, an inserting element extending from the body having a distal end opening and a guide tube extending through the element. The guide tube comprises an inner tube of porous resin in communication with the two openings and an outer tube formed of imperforate resin surrounding it.

The inner tube has a hollow portion in communication with the annular between the tubes by means of pores with its wall. The annular region is in fluid flow with the proximal body or the distal end of the inserting element for supply of disinfecting fluid.

ADVANTAGE - Washing and disinfecting of the scope is possible in a reliable and positive manner.

L33 ANSWER 51 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1987-229482 [33] WPIDS

DOC. NO. NON-CPI: N1987-171786

DOC. NO. CPI: C1987-096725

TITLE: Fibrous PTFE tubes for prostheses - oriented axially at the inner surface and circumferentially at the outer surface.

Searcher : Shears 308-4994

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DERWENT CLASS: A14 A96 D22 P32 P34
INVENTOR(S): ASAOKO, S; OKIT, A K
PATENT ASSIGNEE(S): (SUME) SUMITOMO ELECTRIC IND CO
COUNTRY COUNT: 4
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| EP 232543 | A | 19870819 | (198733)* | EN | 12 |
| R: DE FR GB | | | | | |
| JP 62152470 | A | 19870707 | (199030) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|----------------|----------|
| EP 232543 | A | EP 1986-118024 | 19861223 |

PRIORITY APPLN. INFO: JP 1985-296494 19851224

AN 1987-229482 [33] WPIDS

AB EP 232543 A UPAB: 19930922

Tubular, internal organ prosthetic, fibrous PTFE comprises knots coupled with fibrils having (i) a mean fibril length at the outside surface at least 5 times that of the inner surface and (ii) a mean knot thickness at the outer surface at least 10 times that of the inner surface, and with a continuously varying fibrous constitution from the axially oriented inner to the circumferentially oriented outer surface.

Pref. the fibrous outer surface forms 50-90% of the wall thickness; the mean fibril length of the inner surface is 10-100 microns, and of the outer surface, 50-500 microns; the mean knot thickness of the inner surface is 0.5-5 microns and of the outer surface, 20-200 microns, approx. 40 times greater than the mean knot thickness of the inner surface.

USE/ADVANTAGE - The porous prosthetic material is useful for prodn. of soft thrombus-free artificial blood vessels, and also as an artificial oesophagus, trachea, bile duct, ureter etc., which do not damage surrounding tissues and are tear resistant when sutured. The tubing resists buckling when bent, and the differences in mean fibril length between outer and inner surfaces promote the penetration of the surrounding tissue into the prosthetic material.

0/0

L33 ANSWER 52 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1986-277418 [42] WPIDS
DOC. NO. CPI: C1986-120021
TITLE: Destruction of stable foams along pipes -
Searcher : Shears 308-4994

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by installing in pipe porous
layer of poly tetra
fluoroethylene through which foam passes
and is deaerated.

DERWENT CLASS: A88 J01
INVENTOR(S): GONCHAROV, V N; PAKKI, V I
PATENT ASSIGNEE(S): (UNAT-R) UKR NATURAL GAS RES
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| SU 1214144 | A | 19860228 | (198642)* | | 2 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|------------|------|-----------------|----------|
| SU 1214144 | A | SU 1984-3790798 | 19840917 |

PRIORITY APPLN. INFO: SU 1984-3790798 19840917

AN 1986-277418 [42] WPIDS

AB SU 1214144 A UPAB: 19930922

The foam is passed through a layer of fluorine-contg.
polymer material, e.g. porous
polytetrafluoroethylene (PTFE). The passage is
done at a pressure difference of above 0.1 MPa, and a linear
velocity of the flow of foam=0.1-0.5 m/sec. The porous
layer of PTFE has a pore diameter of 10-60
microns, the thickness of the layer being 10-30
mm.

USE/ADVANTAGE - Used in chemical technology to break down foams
in sealed appts. The effectiveness of the destruction of the foam
is increased.

0/0

L33 ANSWER 53 OF 66 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 86069995 MEDLINE
DOCUMENT NUMBER: 86069995
TITLE: Implantation failure of peritoneal dialysis
catheters: a scanning electron microscopical
study.
AUTHOR: Gregory D W; Youngson G G; Marshall D
SOURCE: SCANNING ELECTRON MICROSCOPY, (1985) (Pt 3) 1223-9.
Journal code: UCU. ISSN: 0586-5581.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
Searcher : Shears 308-4994

09/510937

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198603

AB Patients with end stage renal failure may be treated by continuous ambulatory peritoneal dialysis. The transcutaneous portion of the **catheters** used in this treatment is covered with **porous expanded polytetrafluoroethylene (PTFE)** to provide a surface suitable for tissue infiltration. Following some instances where **catheters** failed to become fixed in the abdominal wall, a scanning electron microscopical study was carried out to compare the infiltration of **catheters** having successful or unsuccessful implantation. The **porous** layer of a well-fixed **catheter**, removed after successful renal transplantation, was infiltrated with collagen **fibrils** and overlaid by layered connective tissue composed of fibroblasts and collagen fibre bundles, sometimes linking to surrounding muscle fibres. The examination of four unsuccessful **catheters** revealed no evidence for infection being the cause of implantation failure. However the **porous** surface of these **catheters** was filled with blood components and products, sometimes apparently laid down in layers, suggesting that frequent bleeding resulting from repeated trauma may be responsible for the failure of **catheter** fixation. These findings led to two changes in clinical practice with apparent patient benefit. The implantation site has been relocated to reduce chafing by clothing and the post-operative wound dressing technique has been altered to minimise **catheter** movement.

L33 ANSWER 54 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1984-256561 [41] WPIDS

DOC. NO. NON-CPI: N1984-191689

DOC. NO. CPI: C1984-108431

TITLE: Metallised microporous PTFE article -
made by electroless plating using soln.
displacement technique.

DERWENT CLASS: A88 J01 M13 P42 P73 Q67 V04 W02 X12 X16

INVENTOR(S): MANNISO, J L

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 16

PATENT INFORMATION:

| PATENT NO | KIND DATE | WEEK | LA | PG |
|-----------|-----------|------|----|----|
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|------------|----------------------|----|----|--|
| WO 8403645 | A 19840927 (198441)* | EN | 29 | |
|------------|----------------------|----|----|--|

RW: AT BE CH DE FR GB LU NL SE

W: JP

| | | | | |
|------------|---------------------|--|--|--|
| AU 8425877 | A 19841122 (198503) | | | |
|------------|---------------------|--|--|--|

| | | | | |
|-----------|---------------------|----|--|--|
| EP 142518 | A 19850529 (198522) | EN | | |
|-----------|---------------------|----|--|--|

R: AT BE CH DE FR GB LI LU NL SE

| | | | | |
|------------|---------------------|--|--|--|
| ZA 8402018 | A 19850318 (198527) | | | |
|------------|---------------------|--|--|--|

Searcher : Shears 308-4994

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JP 60500905 W 19850620 (198531)
US 4557957 A 19851210 (198601)
CA 1224092 A 19870714 (198732)
US 4720400 A 19880119 (198805)
EP 142518 B 19880518 (198820) EN
R: AT BE CH DE FR GB LI LU NL SE
DE 3471263 G 19880623 (198826)
JP 04064305 B 19921014 (199245) 11
JP 05269903 A 19931019 (199346) 10
JP 05269904 A 19931019 (199346) 10
JP 06059699 B2 19940810 (199430) 11
JP 06059700 B2 19940810 (199430) 11

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|-----------|----------------|----------|
| WO 8403645 | A | WO 1984-US397 | 19840316 |
| EP 142518 | A | EP 1984-901511 | 19840316 |
| ZA 8402018 | A | ZA 1984-2018 | 19840319 |
| JP 60500905 | W | JP 1984-501386 | 19840316 |
| US 4557957 | A | US 1983-476839 | 19830318 |
| US 4720400 | A | US 1985-769774 | 19850828 |
| JP 04064305 | B | JP 1984-501386 | 19840316 |
| | | WO 1984-US397 | 19840316 |
| JP 05269903 | A Div ex | JP 1984-501386 | 19840316 |
| | | JP 1991-354284 | 19840316 |
| JP 05269904 | A Div ex | JP 1984-501386 | 19840316 |
| | | JP 1991-354285 | 19840316 |
| JP 06059699 | B2 Div ex | JP 1984-501386 | 19840316 |
| | | JP 1991-354284 | 19840316 |
| JP 06059700 | B2 Div ex | JP 1984-501386 | 19840316 |
| | | JP 1991-354285 | 19840316 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|-------------|-------------|-------------|
| JP 04064305 | B Based on | JP 60500905 |
| | Based on | WO 8403645 |
| JP 06059699 | B2 Based on | JP 05269903 |
| JP 06059700 | B2 Based on | JP 05269904 |

PRIORITY APPLN. INFO: US 1983-476839 19830318; US 1985-769774
19850828

AN 1984-256561 [41] WPIDS

AB WO 8403645 A UPAB: 19930925

The effective pore size in a microporous PTFE article,
having a microstructure of nodes interconnected by fibrils

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, is controllably reduced by encapsulating the individual nodes and fibrils with a metal coating.

A microporous PTFE substrate, having a microstructure of nodes interconnected with fibrils, is coated with a conductive metal, such that the coating surrounds at least some of the nodes and fibrils, the coated substrate is conductive along at least one surface and through at least part of the substrate volume beneath this surface, and the coated substrate retains at least some of its porosity, by (i) cleaning the substrate; (ii) saturating the substrate with an aq. surfactant soln; (iii) activating the substrate surfaces using a Pd/Sn activator soln., the final activating substep involving displacing the Sn portion of the activator soln. with an accelerator soln.; (iv) displacing the accelerator soln. using an aq. medium; and (v) electrolessly plating the substrate.

USE/ADVANTAGE - Possible applications of the prods. are as a cleanable precipitator collector plate; as an electrically conducting grounding and shielding material, for battery and fuel cell applications, etc. The prods. are microporous (15-0.01 micron pores), highly porous (98-50%), flexible, electrically conductive along their exterior surfaces and through their volume, hydrophilic and highly permeable and have an effective metal-coated surface area of greater than 1 sq.m/g and a metal coating which tenaciously encapsulates both exterior and interior surfaces without substantial porosity reduction.

0/4

ABEQ EP 142518 B UPAB: 19930925

1. A process for coating a microporous polytetrafluoroethylene substrate with a conductive metal which comprises the steps of ing the substrate and thereafter plating the substrate using an electroless plating solution such that the coated substrate retains at least some of its porosity, characterised by the intermediate steps of (1) saturating the membrane with an aqueous surfactant solution, (2) activating the surfaces of said substrate to be plated using a palladium/tin activator solution wherein the activating step includes as a final activating substep the tin portion of said activator solution with an accelerator solution and (3) displacing at least a portion of the accelerator using an aqueous medium, the substrate having a microstructure of nodes interconnected with fibrils and the plating being so carried out that conductive metal coating substantially surrounds at least some of the nodes and fibrils, and the coated substrate is conductive along at least one surface and through at least a portion of the substrate volume beneath the one surface.

ABEQ US 4557957 A UPAB: 19930925

A metal-coated article comprises a micro-porous polytetrafluoroethylene tube having a microstructure of nodes interconnected by fibrils. The Searcher : Shears 308-4994

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metal coating encapsulates at least some of the individual nodes and fibrils. The tube has inner and outer surfaces, is flexible and is electrically conductive through at least a portion of the micro-porous structure while retaining porosity. Pref. the metal-coated surface area is microporous and hydrophilic and any nonmetal-coated vol. portion is hydrophobic. Pref. the metal is nickel, copper, silver, gold, platinum or rhodium.

USE - In industrial, medical and electrical arts e.g. in industrial filter bag filtration systems.

ABEQ US 4720400 A UPAB: 19930925

Microporous polytetrafluoroethylene substrate is coated with a conductive metal, where the substrate has a microstructure of nodes interconnected with fibrils by a method in which the substrate is cleaned by immersion in anhydrous acetone and saturated with an aq. soln. of surfactant with methanol and distilled water then is activated on the surfaces to be plated with a Pd/Sn activator soln., the Sn portion being displaced with an accelerator soln. of hydrochloric acid or ammonium hydroxide At least part of the accelerator is displaced with an aq. medium and the substrate is plated by an electroless method at controlled pH of about 7.2 and temp. of about 150 deg. F.

USE/ADVANTAGE - E.g., to give conductivity for electronic applications, adherent coatings being possible.

ABEQ JP 05269903 A UPAB: 19940103

ABEQ JP 05269904 A UPAB: 19940103

L33 ANSWER 55 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

DUPLICATE 3

ACCESSION NUMBER: 1982-78045E [37] WPIDS

TITLE: Degas stopper structure of mould - for foam moulding of urethane resin, consists of

PTFE porous non-fibril material of specified thickness, air permeation resistance etc..

DERWENT CLASS: A14 A25 A32

PATENT ASSIGNEE(S): (MITF) MITSUI FLUOROCHEMICAL CO LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| JP 57128522 | A | 19820810 | (198237)* | | 5 |
| JP 02031658 | B | 19900716 | (199032) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|-------------|----------|
| Searcher | : | Shears | 308-4994 |

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JP 02031658 B

JP 1981-14428 19810204

PRIORITY APPLN. INFO: JP 1981-14428 19810204

AN 1982-78045E [37] WPIDS

AB JP 57128522 A UPAB: 19930915

Degas stopper structure comprises (a) **PTFE porous** substance of non-fibril structure which has a thickness of 0.5 mm. or more (esp. above 5 mm.), an apparent specific gravity (ASG) of 0.8-1.8, (esp. 1-1.6) and air permeation resistance (APR) of 0.1-2 (esp. 0.2-1). The porous substance is fixed at the position where the hollow part of a hollow-protecting tube is cut off.

Compared with metallic porous substance, the degas stopper structure has excellent degass performance for a long period. The degas stopper structure is easy to produce but does not have trace of degassing on the finished surface of the mould.

L33 ANSWER 56 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1981-55606D [31] WPIDS

TITLE: Hollow ceramic body prodn. - by thermal spraying ceramic onto internally cooled core.

DERWENT CLASS: A82 L02 P42 P43 P62 P64 Q67

INVENTOR(S): SCHULTZE, W; WEBER, K

PATENT ASSIGNEE(S): (LANG-N) LANGLET W KG; (VALC) VAW VER ALUMINIUM WERKE AG

COUNTRY COUNT: 8

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| GB 2067459 | A | 19810730 | (198131)* | | 6 |
| DE 3001371 | A | 19810806 | (198133) | | |
| FR 2473399 | A | 19810717 | (198135) | | |
| JP 56104010 | A | 19810819 | (198140) | | |
| GB 2067459 | B | 19830622 | (198325) | | |
| DE 3001371 | C | 19831027 | (198344) | | |
| CA 1160579 | A | 19840117 | (198408) | | |
| US 4460529 | A | 19840717 | (198431) | | |
| US 4547415 | A | 19851015 | (198544) | | |
| CH 651780 | A | 19851015 | (198547) | | |
| US 4657794 | A | 19870414 | (198717) | | |
| JP 63009964 | B | 19830303 | (198813) | | |
| IT 1147795 | B | 19861126 | (198845) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|------|-------------------|----------|
| | | Searcher : Shears | 308-4994 |

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| | | | |
|-------------|---|----------------|----------|
| JP 56104010 | A | JP 1981-3300 | 19810114 |
| US 4460529 | A | US 1981-225191 | 19810115 |
| US 4547415 | A | US 1983-510876 | 19830927 |
| US 4657794 | A | US 1985-768612 | 19850823 |

PRIORITY APPLN. INFO: DE 1980-3001371 19800116

AN 1981-55606D [31] WPIDS

AB GB 2067459 A UPAB: 19930915

A ceramic or oxide ceramic hollow body (**tube**) is made by continuously thermally spraying (flame spraying) the binder free ceramic onto an internally cooled core. The sprayed body is then removed from the core which may be metallic, cardboard coated with glass fibre, wood or plastics. A layer of water glass, fluorocarbon/P.T.F.E. may be applied to the core before spraying.

Used for prodn. of **tubes** with a wall **thickness** greater than 5 mm suitable as a calcination **tube** for waste containers for radioactive and highly toxic materials, as fireproof lining or a thermally insulating **tube**. The ceramic body is homogeneous, stable at high temp. and can be sepd. easily from the core.

ABEQ US 4460529 A UPAB: 19930915

Ceramic or ceramic oxide hollow body is using a hollow core (5) of material with high thermal conductivity and expansion as compared to the body, with an outer surface non-adherent to the body and internal cooling. Non-aggregated atomised ceramic particles free of binder are flame sprayed through a hot plasma jet onto the core outer surface as a uniform coating while maintaining a given temp. gradient across the core wall.

Internal cooling of the core is continued and the coating is additionally cooled by a compressed gas jet (11) before separating body from core. The core surface is pref. of glass fibres, PTFE or heat-resistant textile tape, and the gas jet is of air, CO₂ or N₂. The core is pref. of Cu, Al, Al-Mg or Al-Be. Body **layer thickness** is pref. 0.05-0.15mm and the temp. gradient is less than 2 deg. C/mm.

ADVANTAGE - Provides homogeneous microporous body with high heat stability and intensitivitiy to shock without using binder.

ABEQ US 4547415 A UPAB: 19930915

A hollow tubular body formed of fused layers of particles of ceramic/ceramic oxide particles esp. aluminium oxide, magnesium oxide and/or titanium oxide. The structure is free of binder, porous and has no adhering internal support. It is produced under conditions such that the internal temperature gradient does not exceed 2 deg. C/mm of **layer thickness**.

ADVANTAGE - The **tube** is homogeneous, heat stable and shock resistant. They are resistant to interlayer failure. They can be used e.g. as high temp. process pipes, insulation or as

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containers for toxic/radioactive materials.

ABEQ US 4657794 A UPAB: 19930915

Binder-less ceramic hollow body, e.g. for calcining pipes or for contg. toxic materials, comprises layers of fused particles selected from the gp. of ceramic and ceramic oxide particles, free from any binding agent. The body is porous and free from internal adhering supports. It is produced by exposing the layers to a temp. gradient not exceeding 2 deg. C per mm of layer thickness. Exterior wall thickness is greater than about 5 mm.

Pref. materials are at least one from the gp. carbides, borides, and nitrides of Al and Ti and Al or at least one from the gp. Mg, Ti oxides, the material being at least 99 wt.% or 99.5 wt.% pure respectively.

ADVANTAGE - Body is homogeneous, microporous, heat stable and shock insensitive.

L33 ANSWER 57 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1981-38532D [22] WPIDS
TITLE: Skinless sausages formed in reusable casing - of PTFE membrane in cylindrical housing with spring loaded end plugs.
DERWENT CLASS: A97 D12
INVENTOR(S): BECKER, H
PATENT ASSIGNEE(S): (ASHL-N) ASHLAND FOOD TECHNOLOGY HOLDING
COUNTRY COUNT: 17
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|----------------------------------|----------|--------------|----|----|
| EP 28858 | A | 19810520 | (198122)* EN | | |
| | R: AT BE CH DE FR GB IT LI NL SE | | | | |
| BR 8007280 | A | 19810519 | (198123) | | |
| NO 8003365 | A | 19810601 | (198126) | | |
| GB 2066037 | A | 19810708 | (198128) | | |
| FI 8003485 | A | 19810630 | (198130) | | |
| DK 8004737 | A | 19810824 | (198138) | | |
| DD 154189 | A | 19820303 | (198231) | | |
| US 4371554 | A | 19830201 | (198307) | | |
| EP 28858 | B | 19831012 | (198342) EN | | |
| | R: AT BE CH DE FR GB IT LI NL SE | | | | |
| DE 3065314 | G | 19831117 | (198347) | | |
| US 4437206 | A | 19840320 | (198414) | | |
| JP 56092729 | A | 19810727 | (198915) | | |
| JP 01015251 | B | 19890316 | (198915) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-----------|----------|-------------|-----------------|
| | Searcher | : | Shears 308-4994 |

09/510937

US 4371554 A US 1982-428020 19820929
JP 56092729 A JP 1979-10067 19791109

PRIORITY APPLN. INFO: CH 1979-10067 19791109

AN 1981-38532D [22] WPIDS

AB EP 28858 A UPAB: 19930915

A reusable, tubular sausage casing includes a PTFE membrane mounted in a cylindrical support. The membrane has nodes interconnected by fibrils and has sufficient porosity to vent steam released during cooking the sausage meats. The surface texture prevents the extrusion of solids and provides for the easy release of the sausage product. The PTFE has the following characteristics: a Gurley number of 28 secs; a bubble point pressure of 0.91 to 1.55 kg/sq.cm; a water entry pressure of at least 2.8 kg/sq.cm.

The PTFE membrane is held by a ribbed housing. The ends of the membrane are captured by a screwed end cap. Pref. an end plug (11a) is advanced by a helical spring to compress the sausage mixture (10). Pref. the membrane is formed from flat PTFE tape wound helically with its overlapping edges adhered.

The casing is reusable and produces skinless sausages esp. parboil or raw sausages.

ABEQ US 4437206 A UPAB: 19930915

Sausage casing PTFE membrane has Gurley no. of 1-650 secs. (ASTM D-726-58) being the time to flow 100cm³ of air through specified test area; (2) Bubble point pressure of 3-60 psig visually determined using Mullins burst test appts. (Fed. Std 191, Method 5512) by raising water pressure to test level over 10 secs and keeping it there for 30 secs.; (4) thickness of 0.001-5 mm and (5) porosity of 30-90% defined as Q where SG is density of PTFE.

Appts. comprises means for supporting tubular casing, that includes a lattice structure of plural longitudinal and ring shaped cross ribs with means to secure casing ends.

Also claimed is a sausage casing with membrane thickness of 0.003 inches, porosity of 78%, density of 0.04 g/cm³, max Gurley No. of 28 seconds, bubble point pressure of min of 13 psig and max of 22 psig, min. water entry pressure of 40 psig and bubble point pressure test time of 120 secs for 500cm³ of methanol to pass through test area.

L33 ANSWER 58 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1981-46026D [26] WPIDS

TITLE: Fabrication of filters from microporous

PTFE components - by welding and recrystallisation while clamped to inhibit thermal contraction.

Searcher : Shears 308-4994

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DERWENT CLASS: A14 A35 A88 J01 P32 P73
INVENTOR(S): BOWMAN, J B
PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L
COUNTRY COUNT: 17
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| BE 887501 | A | 19810601 | (198126)* | | |
| GB 2068827 | A | 19810819 | (198134) | | |
| US 4283448 | A | 19810811 | (198135) | | |
| BR 8100852 | A | 19810825 | (198138) | | |
| FR 2475974 | A | 19810821 | (198139) | | |
| NO 8100506 | A | 19810907 | (198140) | | |
| SE 8100407 | A | 19810914 | (198140) | | |
| NL 8100672 | A | 19810916 | (198142) | | |
| FI 8100449 | A | 19810930 | (198143) | | |
| DK 8100635 | A | 19811012 | (198145) | | |
| DE 3104037 | A | 19811224 | (198201) | | |
| JP 57046835 | A | 19820317 | (198217) | | |
| ZA 8100678 | A | 19820126 | (198217) | | |
| GB 2068827 | B | 19830921 | (198338) | | |
| CA 1165080 | A | 19840410 | (198419) | | |
| DE 3153148 | A | 19840517 | (198421) | | |
| DE 3153179 | A | 19841115 | (198447) | | |
| DE 3153231 | A | 19850131 | (198506) | | |
| CH 652072 | A | 19851031 | (198547) | | |
| DE 3104037 | C | 19860227 | (198610) | | |
| SE 448968 | B | 19870330 | (198715) | | |
| DE 3153231 | C | 19870521 | (198720) | | |
| IT 1135417 | B | 19860820 | (198805) | | |
| AT 8100711 | A | 19880115 | (198808) | | |
| JP 63015904 | B | 19880406 | (198817) | | |
| NL 185906 | B | 19900316 | (199013) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|-------------|------|-----------------|----------|
| NL 8100672 | A | NL 1981-672 | 19810212 |
| DE 3104037 | A | DE 1981-3153148 | 19810205 |
| JP 57046835 | A | JP 1981-19161 | 19810213 |
| DE 3153148 | A | DE 1981-3153179 | 19810205 |
| DE 3153179 | A | DE 1981-3153231 | 19810205 |
| DE 3153231 | A | DE 1981-3104037 | 19810205 |

PRIORITY APPLN. INFO: US 1980-121365 19800214

AN 1981-46026D [26] WPIDS

Searcher : Shears 308-4994

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AB BE 887501 A UPAB: 19930915

PTFE articles are fabricated from smaller component parts by (a) clamping the interfaces together whilst (b) clamping the components to inhibit thermal contraction whilst (c) the components are heated and maintained for a period at a temp. above their crystalline m.pt. and then (d) cooled to below the crystalline m.pt. while maintaining the interface in close contact.

Esp. suitable for fabricating complex industrial or surgical filters from pieces of **porous PTFE** 0.13-2.54 mm. thick and having a microstructure of crystalline nodules linked by **fibrils**, so as to establish a similar structure across the fused interface, and to inhibit densification of the bulk structure due to thermal contraction.

Segments of a **tubular** filter may be assembled circumferentially and concentrically around a mandrel of suitable dia. and clamped at each end to inhibit longitudinal contraction. The segments may be overwrapped with helically wound oriented **PTFE** tape which, by thermal contraction, will maintain the segment interfaces in compression while the components are annealed and then allowed to recrystallise.

ABEQ DE 3104037 C UPAB: 19930915

Prodn. of **tubes** from stretched, **porous polytetrafluoroethylene** comprises extrusion around a spike to obtain a succession of **tubular** segments; the segments are wrapped with stretched, **porous PTFE** foil having a fibrille-bonded, nodular microstructure, then laid horizontally and heated above the crystalline m.p. under pressure, when the foil shrinks and bonds to the surface of the **tubes**; and the **tubes** are cooled.

ADVANTAGE - The prods. have excellent thermal and chemical stability, electrical resistance, non-adhesive and self-lubricating properties, for medical and industrial applications.

ABEQ DE 3153231 C UPAB: 19930915

Sections of stretched, shrinkable microporous **polytetrafluoroethylene**, each having a microstructure comprising nodules, bonded by **fibrils**, are bonded by keeping the sections in contact during the bonding.

It is heated to a temp. above the crystalline m.pt. for a predetermined time and then cooled below the crystalline m.pt. The contacting edges of the sections, are held by force perpendicular to the edges, during the heating- and cooling processes, to inhibit shrinkage of the sections.

ADVANTAGE - On bonding microporous **PTFE**, the original microstructure of nodules and **fibrils** is retained a little changed as possible.

L33 ANSWER 59 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1980-12798C [07] WPIDS

TITLE: **PTFE** polymer with high porosity

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and tensile strength - useful as insulator in cable
and gas permeable membrane.

DERWENT CLASS: A41 A85 A88 F01 X12

INVENTOR(S): GORE, R W

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 1

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| US 4187390 | A | 19800205 | (198007)* | | |

PRIORITY APPLN. INFO: US 1970-39753 19700521; US 1973-376188
19730703; US 1975-637298 19751203; US
1977-808545 19770621

AN 1980-12798C [07] WPIDS

AB US 4187390 A UPAB: 19930902

A porous material comprises a highly crystalline PTFE polymer which has a microstructure characterised by nodes interconnected by fibrils. The material has a matrix tensile strength in at least one direction of >9290 psi.

Claimed embodiments include (a) material which has been heated to >327 degrees C, has a crystallinity <95%, a thermal conductivity of 0.17-0.85 Btu/hr/sq. ft./degree F/in a dielectric constant of 1.2-1.8 and an N2 permeability of 10-8-10-1 metric units (b) material which has not been heated to >327 degrees C and has a crystallinity >95%, (c) material which has been expanded by stretching at >=10%/sec., and maintained at 35 degrees C to the crystalline melting point during the stretching so that the final length is >2x(>24x) the original length.

The material is used to form films, tubes, continuous filaments and rods which may be fitted, compressed or impregnated, and in laminates. Claimed uses for the material is as an insulator in a coaxial cable, where its reduced dielectric constant yields smaller and lighter cables, and a laminate membrane which is permeable to gas but not to water. By suitable treatment, a matrix tensile strength >100,000 psi and porosity <97(40-75)% can be obtd.

L33 ANSWER 60 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1980-33244C [19] WPIDS

TITLE: Flexible catheter or cannula tube
- of sintered PTFE with alternating
porous and solid wall sections.

DERWENT CLASS: A96 B07 Q67

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L; (JUNS) JUNKOSHA CO LTD

COUNTRY COUNT: 2

Searcher : Shears 308-4994

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PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| GB 1567122 | A | 19800508 | (198019)* | | |
| JP 53122287 | A | 19781025 | (199101) | | |

PRIORITY APPLN. INFO: JP 1977-36711 19770331; JP 1977-39910U
19770331

AN 1980-33244C [19] WPIDS

AB GB 1567122 A UPAB: 19930902

A flexible **tubular** instrument comprises a sintered **PTFE** tube with solid and porous wall sections alternating along its length. The tip is pref. porous and the porous sections microstructure consists of nodes connected by **fibrils**.

The solid and porous sections may alternate spirally along the **tube**, or a single porous section may separate two solid sections. The **tube** is readily insertable and removable, can be made free from kinking and provided with a required balance of rigidity and flexibility and can withstand sterilisation.

L33 ANSWER 61 OF 66 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 80166035 EMBASE

DOCUMENT NUMBER: 1980166035

TITLE: The Castelli membrane in the treatment of glue ear.

AUTHOR: Bailey Q.

CORPORATE SOURCE: Dept. Otolaryngol., Univ. Melbourne, Roy. Victorian Eye Ear Hosp., East Melbourne, Vict., Australia

SOURCE: Journal of Laryngology and Otology, (1980) 94/4 (377-382).

CODEN: JLOTAX

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal

FILE SEGMENT: 011 Otorhinolaryngology

LANGUAGE: English

AB Since the introduction by Armstrong in 1954 of middle ear drain tubes (tympanostomy **tubes**, MEDTs) for the treatment of serous otitis media, an ever-increasing number of operations to insert these devices has been performed. Many varied designs of MEDT are in use and they are manufactured from Polyethylene, Teflon, Silicone and stainless steel. All conventional MEDTs aim to aerate the middle ear, and in doing so they convert the tympanum from a closed ventilated cavity into an open one. They share the disadvantage that water should be prevented from entering the middle ear during swimming and other activities. The ideal MEDT

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should, among other features, provide continuous middle ear aeration whilst in position but should prevent the entry of water or other material into the middle ear. Attempts to provide this include the use of semi-permeable membranes, and such devices include the Castelli membrane, a porous structure of expanded polytetrafluoroethylene (Teflon) consisting of a matrix of nodules interconnected with fibrils between which are open pore spaces with a characteristic pore size of 0.20 microns which is bonded to the external flange of the MEDT. This paper summarized experience with Castelli membrane tubes gained over a two-year period.

L33 ANSWER 62 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1979-81118B [45] WPIDS
TITLE: Supported catalyst for hydrogen isotope concn. -
has porous ptfe support mixed
with fluorocarbon or (co)polystyrene to increase
surface area.
DERWENT CLASS: A18 A97 E36 J01 K08
INVENTOR(S): ISOMURA, S; NAKANE, R; WAKO, S
PATENT ASSIGNEE(S): (RIKA) RIKAGAKU KENKYUSHO; (SUME) SUMITOMO ELEC IND
LTD
COUNTRY COUNT: 5
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| DE 2917234 | A | 19791031 | (197945)* | | |
| JP 54143786 | A | 19791109 | (197951) | | |
| JP 54143789 | A | 19791109 | (197951) | | |
| FR 2427296 | A | 19800201 | (198011) | | |
| US 4259209 | A | 19810331 | (198116) | | |
| DE 2917234 | B | 19810716 | (198130) | | |
| CA 1123416 | A | 19820511 | (198222) | | |
| JP 57045614 | B | 19820929 | (198242) | | |
| JP 57045615 | B | 19820929 | (198242) | | |

PRIORITY APPLN. INFO: JP 1978-52051 19780428; JP 1978-52054
19780428

AN 1979-81118B [45] WPIDS
AB DE 2917234 A UPAB: 19930901

Catalyst for the concn. of hydrogen isotopes by exchange between gaseous hydrogen and liquid water has a support of porous PTFE with a total specific surface area of 2-80 m²/g resulting from mixing with 0.5-15 wt.% fluorocarbon (I) or a porous styrene polymer (IIA) or styrene divinylbenzene copolymer (IIB) with a specific surface area of min. 50 m²/g.

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Particles of gp. VIII element(s) are deposited on the support.

(I) is pref. the fluoride (IA) of amorphous carbon, (II) is rendered hydrophobic. The PTFE has a porosity of 50-90% and is in the form of rings cut from a tube. The average pore dia. is 0.5-2 um. The PTFE pref. has a fibrous structure with knots of interconnected fibrils, which are surrounded by (II) or to which (II) is fixed.

A considerable increase in the catalytic activity is obtd. with this support.

L33 ANSWER 63 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1978-46285A [26] WPIDS
TITLE: Electrode for electrochemical measurement using half cell - is prep'd. by forming holes on metal or resin support lateral surface, coating with polyfluorocarbon resin and attaching glass electrode.
DERWENT CLASS: A89 J04 S03
PATENT ASSIGNEE(S): (DENK-N) DENKI KAGAKU KEIKI KK; (SUME) SUMITOMO ELECTRIC IND CO
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| JP 53054089 | A | 19780517 | (197826)* | | |

PRIORITY APPLN. INFO: JP 1976-128944 19761026

AN 1978-46285A [26] WPIDS

AB JP 53054089 A UPAB: 19930901

An electrode for electrochemical measurement using half-cell is prep'd. by forming a number of holes having a dia. of 0.1-2.0 mm. on lateral surface of metallic or synthetic-resinous supporting body and coating an external surface of the supporting body with a fluorine resin filter and connecting a stem tube of a glass electrode and a guard by upper and lower screws. The holes are passages in which an internal soln. flows out to the outside through the fluorine resin filter. The supporting body is fitted to reinforcing, protecting the fluorine resin filter, i.e. the liquid circuit. An internal surface of the flourine resin filter is plated with a silver chloride layer and it may be used as an internal electrode.

The fluorine resin is PTFE, polychlorotrifluoroethylene, copolymer of TFE-hexafluoroethylene and poly.dichloro.fluoroethylene. It has a porous dia. of 0.005-1.0 u, an aerial porosity of 2-50% and a thickness of 0.05-3 mm. as a means of flowing out

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a sample soln. contg. ions.

The electrode for electrochemical measurement is used for measuring an ion potential of the sample soln.

L33 ANSWER 64 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1978-04665A [03] WPIDS
TITLE: Flexible tube of extreme suppleness - has a waterproof layer sandwiched between layers of porous plastic of special microstructure.
DERWENT CLASS: A88 Q67
PATENT ASSIGNEE(S): (JUNS) JUNKOSHA CO LTD; (OLYU) OLYMPUS OPTICAL CO LTD
COUNTRY COUNT: 2
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|-------------|------|----------|-----------|----|----|
| DE 2728636 | A | 19780105 | (197803)* | | |
| DE 2728636 | C | 19820826 | (198235) | | |
| JP 53000422 | A | 19780106 | (198501) | | |
| JP 59049464 | B | 19841202 | (198501) | | |

PRIORITY APPLN. INFO: JP 1976-74288 19760625

AN 1978-04665A [03] WPIDS

AB DE 2728636 A UPAB: 19930901

Tube consists of three layers. The inner layer is of a porous polymer with a microstructure of nodes joined by fibrils. Over this is wound a waterproof layer, and over that a further layer of the porous polymer.

Pref. the layers are connected together by adhesive and the porous polymer is PTFE or polypropylene. The middle, waterproof layer is pref. of a flexible plastic, partic. tetrafluoroethylene-hexafluoropropylene copolymer a fluorhydrocarbon polymer with perfluoralkoxy side chains, a fluorelastomer or a plastic-backed metal foil.

Tubes can be bent to a radius of only 5-15 times their own dia. without kinking or collapsing. They bend easily and remain watertight after repeated bending.

L33 ANSWER 65 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1975-40996W [25] WPIDS

CROSS REFERENCE: 1979-53015B [29]

TITLE: Vascular prosthesis made of low density PTFE - as a clot resistant replacement for lesser blood vessels.

DERWENT CLASS: A14 A96 B07 D22 P32 P33

PATENT ASSIGNEE(S): (GOLD-I) GOLDFARB D

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COUNTRY COUNT: 8
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|----------|-----------|----|----|
| BE 824943 | A | 19750515 | (197525)* | | |
| DE 2514231 | A | 19760506 | (197620) | | |
| NL 7503089 | A | 19760427 | (197620) | | |
| SE 7415996 | A | 19760524 | (197624) | | |
| FR 2288510 | A | 19760625 | (197634) | | |
| CH 587652 | A | 19770513 | (197727) | | |
| GB 1505591 | A | 19780330 | (197813) | | |
| IT 1026441 | B | 19780920 | (197849) | | |

PRIORITY APPLN. INFO: US 1974-517415 19741024

AN 1975-40996W [25] WPIDS

CR 1979-53015B [29]

AB BE 824943 A UPAB: 19930831

Prosthetic tubing with a skin 0.2-0.8 mm thick and a core comprises an agglomerate of PTFE particles interstitial fibrils having an average apparent density of 0.2-0.5 g/ml and a porosity which will pass red corpuscles but not a clot. The surface must be suitable for supporting a neo-intima membrane and linking two living organs. The tubing is used esp. for replacing veins or arteries of <8 mm, pref. 2-6 mm bore, though is also suitable for blood vessels of up to 40 mm bore. The tube can be readily made in lengths and diams. suitable for replacing minor blood vessels in one piece, minimising the operating period necessary. It is readily made with a tapered profile for linking relatively large and small vessels, viz 5-8 mm dia., reducing to 2-6 mm. It is porous and acts as a filter, it also suppresses turbulent flow which might otherwise initiate clotting.

L33 ANSWER 66 OF 66 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1971-74957S [47] WPIDS

TITLE: Porous polytetrafluoroethylene material.

DERWENT CLASS: A14 A32 A94 P54 P73

PATENT ASSIGNEE(S): (GORE) GORE & ASSOC INC W L

COUNTRY COUNT: 9

PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|------------|------|------|-----------|----|----|
| BE 767423 | A | | (197147)* | | |
| DE 2123316 | A | | (197149) | | |

Searcher : Shears 308-4994

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| | | |
|-------------|---|-------------------|
| NL 7107000 | A | (197149) |
| JP 46007284 | A | (197202) |
| ZA 7103287 | A | (197206) |
| FR 2090775 | A | (197214) |
| GB 1355373 | A | 19740605 (197423) |
| CH 555377 | A | 19741031 (197446) |
| CA 962021 | A | 19750204 (197508) |
| DE 2123316 | B | 19750731 (197532) |
| JP 50138387 | A | 19751104 (197601) |
| JP 51030277 | A | 19760315 (197618) |
| JP 51018991 | B | 19760614 (197628) |
| NL 158729 | B | 19781215 (197902) |
| JP 55026567 | B | 19800714 (198032) |
| JP 56017216 | B | 19810421 (198120) |
| DE 2167294 | B | 19821223 (198301) |

PRIORITY APPLN. INFO: US 1970-39753 19700521; US 1973-369814
19730614; US 1973-376188 19730703; US
1977-808545 19770621

AN 1971-74957S [47] WPIDS

AB BE 767423 A UPAB: 19930831

A porous material prepared from PTFE contains 5%
of amorphous material and has a microstructure containing nodes
joined by fibrils.

Articles are formed from a polymer paste by expansion and
drawing, they are heated to at least 327 degrees C and held in the
drawn state until they are cold. Although temp. as low as 35
degrees C may be used, max. improvement in properties is obtained by
heating at 350 degrees-370 degrees C. A rate of expansion >10% per
second is desirable and max. porosity is achieved at
expansion ratios as high as 1500%. The fibrils have a
diameter of 5 1000 angstroms and the nodes a length of 0.5-400 mu.
Tubes, films and filaments may be formed and the materials
may be impregnated and laminated. The expanded material generally
has a porosity of 40-97%.

Articles of the material have high porosity and
greatly augmented tensile strength, and may be used as filters,
semipermeable membranes, thermal and electrical insulators.

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